SOUVENIR GUIDE
UNITED STATES GOVERNMENT BUILDI
LOUISIANA PURCHASE EXPOSITION

The Late President McKinley's Speech

AT BUFFALO, SEPTEMBER 5th, 1901

"I AM glad to be again in the city of Buffalo and exchange greetings with her people, to whose generous hospitality I am not a stranger, and with whose good-will I have been repeatedly and signally honored. To-day, I have additional satisfaction in meeting and giving welcome to the foreign representatives assembled here, whose presence and participation in this exposition have contributed in so marked a degree to its interest and success.

"Expositions are the timekeepers of progress. They record the world's advancement. They stimulate the energy, enterprise, and intellect of the people, and quicken human genius. They go into the home. They broaden and brighten the daily life of the people. They open mighty storehouses of information to the student. Every exposition, great or small, has helped to some onward step. Comparison of ideas is always educational, and as such instructs the brain and hand of man. Friendly rivalry follows, which is the spur to industrial improvement, the inspiration to useful invention and to high endeavor in all departments of human activity. It exacts a study of the wants, comforts, and even the whims of the people, and recognizes the efficacy of high quality and new prices to win their favor. The quest for trade is an incentive to men of business to devise, invent, improve, and economize in the cost of production. Business life, whether among ourselves or with other people, is ever a sharp struggle for success. It will be none the less so in the future. Without competition we would be clinging to the clumsy and antiquated processes of farming and manufacture and the methods of business of long ago, and the twentieth would be no further advanced than the eighteenth century. But though commercial competitors we are, commercial enemies we must not be.

"After all, how near one to the other is every part of the world! Modern inventions have brought into close relation widely separated peoples and made them better acquainted. Geographic and political divisions will continue to exist, but distances have been effaced. Swift ships and fast trains are becoming cosmopolitan. They invade fields which a few years ago were impenetrable. The world's products are exchanged as never before, and with increasing transportation facilities come increasing knowledge and larger trade. Prices are fixed with mathematical precision by supply and demand. The world's selling prices are regulated by market and crop reports. We travel greater distances in a shorter space of time and with more ease than was ever dreamed of by the fathers. Isolation is no longer possible or desirable. The same important news is read, though in different languages, the same day in all Christendom. The telegraph keeps us advised of what is occurring everywhere and the press foreshadows, with more or less accuracy, the plans and purposes of the nations. Market prices of products and of securities are hourly known in every commercial mart, and the investments of the people extend beyond their own national boundaries into the remotest parts of the earth. Vast transactions are conducted, and international exchanges are made, by the tick of the cable. Every event of interest is immediately bulletined. The quick gathering and transmission of news, like rapid transit, are of recent origin, and are only made possible by the genius of the inventor and the courage of the investor. It took a special messenger of the Government, with every facility known at the time for rapid travel, nineteen days to go from the city of Washington to New Orleans with a message to General Jackson that the war with England had ceased and a treaty of peace had been signed. How different now!

"We reached General Miles in Porto Rico by cable, and he was able, through the military telegraph, to stop his army on the firing line with the message that the United States and Spain had signed a protocol suspending hostilities. We knew almost instantly of the first shots fired at Santiago, and the subsequent surrender of the Spanish forces was known at Washington within less than an hour of its consummation. The first ship of Cervera's fleet had hardly emerged from that historic harbor when the fact was flashed to our capital, and the swift destruction that followed was announced immediately through the wonderful medium of telegraphy. So accustomed are we to safe and easy communication with distant lands that its temporary interruption, even in ordinary times, results in loss and inconvenience. We shall never forget the days of anxious waiting and awful suspense when no information was permitted to be sent from Peking, and the diplomatic representatives of the nations in China, cut off from all communication, inside and outside of the walled capital, were surrounded by an angry and misguided mob that threatened their lives; nor the joy that thrilled the world when a single message from the Government of the United States brought, through our minister, the first news of the safety of the besieged diplomats.

"At the beginning of the nineteenth century there was not a mile of steam railroad on the globe; now there are enough miles to make its circuit many times. Then there was not a line of electric telegraph; now we have a vast mileage traversing all lands and all seas. God and man have linked the nations together. No nation can longer be indifferent to any other. And as we are brought more and more in touch with each other, the less occasion is there for misunderstandings, and the stronger the disposition, when we have differences, to adjust them in the court of arbitration, which is the noblest forum for the settlement of international disputes.

"My fellow-citizens: Trade statistics indicate that this country is in a state of unexampled prosperity. The figures are almost appalling. They show that we are utilizing our fields and forests and mines, and that we are furnishing profitable employment to the millions of workingmen throughout the United States, bringing comfort and happiness to their homes, and making it possible to lay by savings for old age and disability. That all the people are participating in this great prosperity is seen in every American community, and shown by the enormous and unprecedented deposits in our savings-banks. Our duty is the care and security of these deposits, and their safe investment demands the highest integrity and the best business capacity of those in charge of these depositories of the people's earnings.

"We have a vast and intricate business, built up through years of toil and struggle, in which every part of the country has its stake, which will not permit of either neglect or of undue selfishness. No narrow, sordid policy will subserve it. The greatest skill and wisdom on the part of manufacturers and producers will be required to hold and increase it. Our industrial enterprises, which have grown to such great proportions, affect the homes and occupations of the people and the welfare of the country. Our capacity to produce has developed so enormously, and our products have so multiplied, that the problem of more markets requires our urgent and immediate attention. Only a broad and enlightened policy will keep what we have. No other policy will get more. In these times of marvelous business energy and gain we ought to be looking to the future, strengthening the weak places in our industrial and commercial systems, that we may be ready for any storm or strain.

"By sensible trade arrangements which will not interrupt our home production, we shall extend the outlets for our increasing surplus. A system which provides a mutual exchange of commodities is manifestly essential to the continued and healthful growth of our export trade. We must not repose in fancied security that we can forever sell everything and buy little or nothing. If such a thing were possible, it would not be best for us or for those with whom we deal. We should take from our customers such of their products as we can use without harm to our industries and labor. Reciprocity is the natural outgrowth of our wonderful industrial development under the domestic policy now firmly established. What we produce beyond our domestic consumption must have a vent abroad. The excess must be relieved through a foreign outlet, and we should sell everywhere we can and buy wherever the buying will enlarge our sales and productions, and thereby make a greater demand for home labor.

"The period of exclusiveness is past. The expansion of our trade and commerce is the pressing problem. Commercial wars are unprofitable. A policy of good-will and friendly trade relations will prevent reprisals. Reciprocity treaties are in harmony with the spirit of the times; measures of retaliation are not.

"If perchance some of our tariffs are no longer needed for revenue or to encourage and protect our industries at home, why should they not be employed to extend and promote our markets abroad? Then, too, we have inadequate steamship service.

"Next in advantage to having the thing to sell is to have the convenience to carry it to the buyer. We must encourage our merchant marine. We must have more ships. They must be under the American flag, built and manned and owned by Americans. These will not only be profitable in a commercial sense,—they will be messengers of peace and amity wherever they go. We must build the isthmian canal, which will unite the two oceans and give a straight line of water communication with the western coasts of Central and South America and Mexico. The construction of a Pacific cable cannot be longer postponed.

"In the furtherance of these objects of national interest and concern you are performing an important part. This exposition would have touched the heart of that American statesman whose mind was ever alert and thought ever constant for a larger commerce and a truer fraternity of the republics of the New World. His broad American spirit is felt and manifested here. He needs no identification to an assemblage of Americans anywhere, for the name of Blaine is inseparably associated with the Pan-American movement which finds its practical and substantial expression, and which we all hope will be firmly advanced, by the Pan-American Congress that assembles this autumn in the capital of Mexico. The good work will go on. It cannot be stopped. These buildings will disappear, this creation of art and beauty and industry will perish from sight, but their influence will remain to

"Make it live beyond its too short living,
With praises and thanksgiving.

"Who can tell the new thoughts that have been awakened, the ambitions fired, and the high achievements that will be wrought through this exposition? Gentlemen, let us ever remember that our interest is in concord, not conflict; and that our real eminence rests in the victories of peace, not those of war. We hope that all who are represented here may be moved to higher and nobler efforts for their own and the world's good, and that out of this city may come, not only greater commerce and trade for us all, but, more essential than these, relations of mutual respect, confidence, and friendship which will deepen and endure.

"Our earnest prayer is that God will graciously vouchsafe prosperity, happiness and peace, to all our neighbors, and like blessings to all the peoples and powers of earth."

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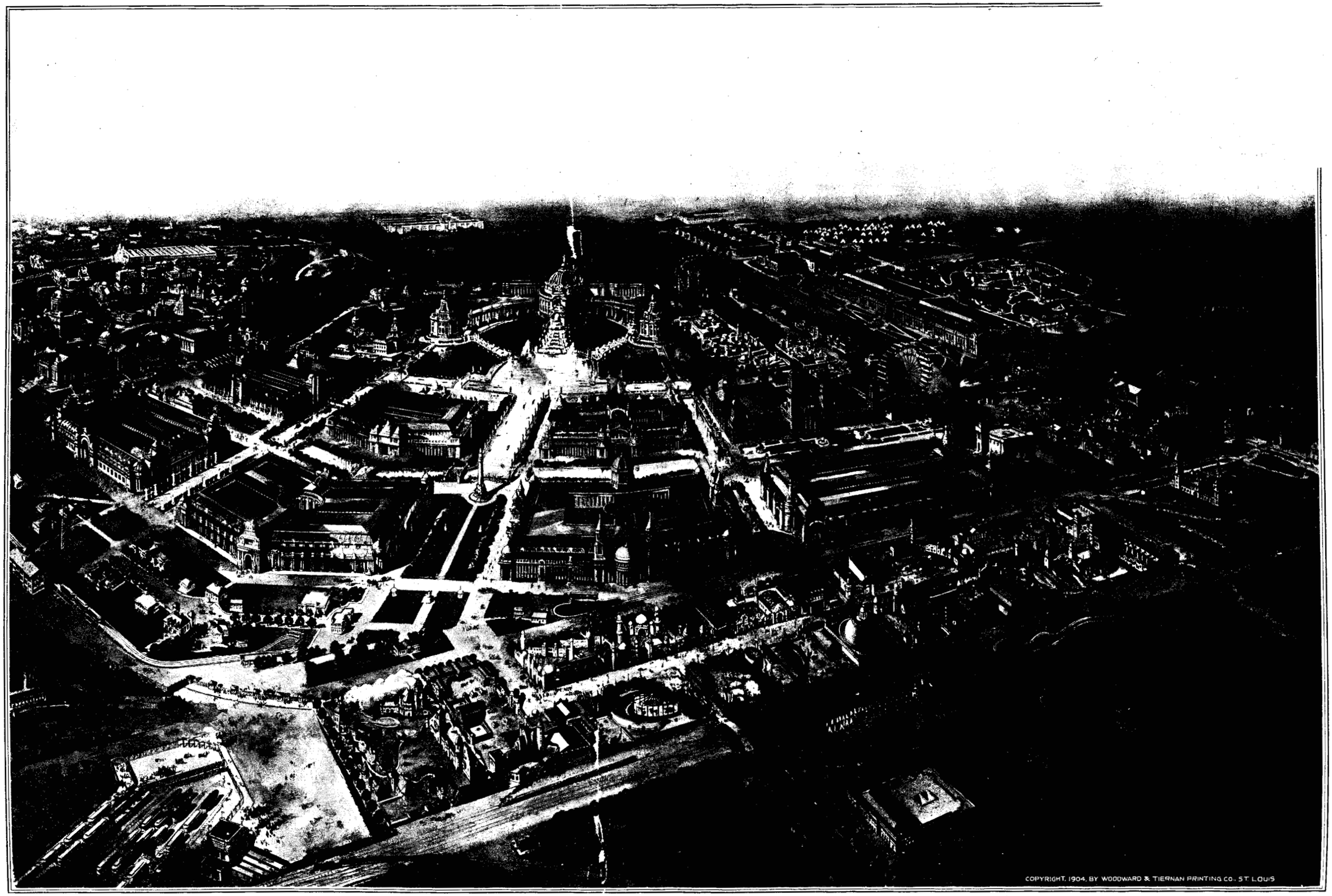

BIRD'S-EYE VIEW OF WORLD'S FAIR, ST. LOUIS, U. S. A.

SOUVENIR GUIDE

to the

United States Government Buildings and Exhibits

at the

Louisiana Purchase Exposition

(WORLD'S FAIR)

1904

At Saint Louis, Missouri, U. S. A.

May 1st to December 1st

PUBLISHED BY PERMISSION OF THE U. S. GOVERNMENT BOARD, BY

ELSIE MAY TEEPELL

14 Collins Place
CLEVELAND, O.

718 Arch Street
PHILADELPHIA, PA.

1527 I Street, N. W.
WASHINGTON, D. C.

A 2-

Synopsis of Frontispiece.

The motive for this design of a "Timekeeper of Progress" is embodied in the first sentence of the second paragraph of the late President McKinley's speech at the Pan-American Exposition, namely, "Expositions are the Timekeepers of Progress."

For the names "Minute" and "Hour" applied to the hands and graduations of the ordinary timepiece, the terms "Score" and "Century" have been substituted respectively—twenty months make a "Score," sixty scores make a "Century;" instead of sixty seconds make a "Minute," sixty minutes make an "Hour."

A "Month-hand" might be appropriated for the registering of months which would facilitate the reading of years; but suffice it to say that "Three" scores equal "Five" years, "Fifteen" scores a "Quarter-century," etc.

That a proper estimate of the primitive and relatively progressive areas of the United States may be readily determined, a delineated map thereof has been inscribed upon the dial-plate.

The stars representing the "Original Thirteen States" as defined on map, have been significantly arranged upon the face of the dial. (See "Original Stars and Stripes," rear cover.)

Inasmuch as the initial swing of the pendulum of this "Timekeeper of Progress" was imparted by "Continental Congress," when on July 4, 1776, that August Tribunal unanimously adopted the "Declaration of Independence" (that most precious American document written by the "Immortal" Thomas Jefferson and proclaimed throughout all Christendom by the "Liberty Bell" photogravured hereupon, over which has been imprinted our late beloved President's speech), it is apparent that a century and twenty-seven years have elapsed, the "Score-hand" being on the "Quarter-mark" of the "Second Century"—1901—at the time of the Pan-American Exposition.

This "Timekeeper of Progress," going into service in 1776, has kept an authentic record of subsequent acquisitions and annexations to our "Original Territory," which have followed in rapid succession; the greatest achievement in this respect occurring in 1803, when the United States purchased from France for the sum of Fifteen Million Dollars, all that "Territory of Louisiana" indicated on map by one of our national colors—White.

The Shields of the United States and France and the Coats-of-arms of our then President—Thomas Jefferson—and the then Emperor of France—Napoleon Bonaparte—enter essentially into this design, as does also the President's flag and that of the Louisiana Purchase Exposition.

With the year 1903 marking the 100th anniversary of this Purchase, an opportunity to celebrate the occasion this year—1904—has been accorded the "Metropolis" of the Louisiana Purchase Territory—St. Louis—the geographical position of which city makes it possible to place her "Common Seal" over the Thirteenth Star.

While this description covers the most salient features of this production, many other points of interest in connection with the late President McKinley's last speech have been obviously portrayed to

"Make him live beyond his too short living,
With praises and thanksgiving."

UNITED STATES GOVERNMENT BOARD

LOUISIANA PURCHASE EXPOSITION

(ST LOUIS, 1904)

J H BRIGHAM, Chairman
W V COX, Secretary
W M GEDDES, Disbursing Officer

GENERAL OFFICES
Rooms 23 and 24
Second National Bank Building

Washington City, February 8, 1904.

Dear Madam:

I am directed by the U. S. Government Board of Management, Louisiana Purchase Exposition, to inform you that at a meeting held on the 6th instant, the Special Committee having under consideration your proposition to publish a souvenir guide of the Government exhibits, presented a favorable report, which was approved by the Board; and in accordance with the Board's instruction I transmit herewith a copy of the same.

Yours very respectfully,

W V Cox

Secretary.

Miss Elsie M. Teepell,
Washington City.

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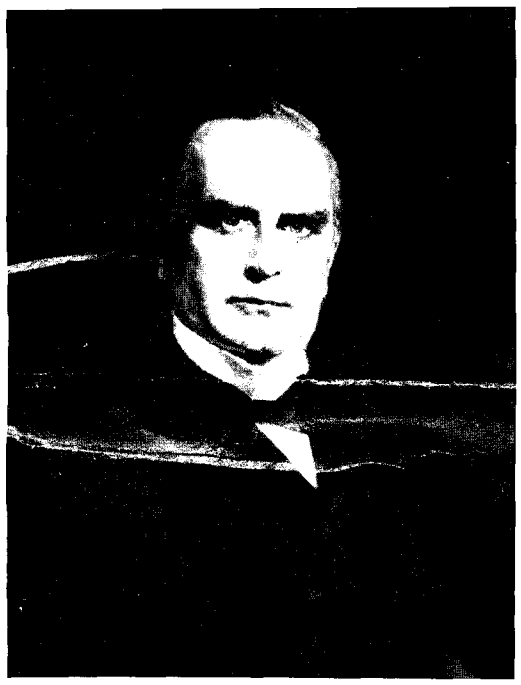
Souvenir Guide United States Government Buildings Louisiana Purchase Exposition

Volume I | Philadelphia, May 1, 1904 | Number 1

National Exposition Legislation and Participation.

On March 3, 1901, President McKinley approved an Act of Congress* entitled "An Act to provide for celebrating the one hundredth anniversary of the purchase of the Louisiana territory by the United States by holding an international exhibition of arts, industries, and the products of the soil, mine, forest and sea, in the city of St. Louis, in the State of Missouri."

That Act, in its preambles, recognized that "it is fit and appropriate that the one hundredth anniversary of the purchase territory be commemorated by an exhibition of the resources of the territory, their development, and of the progress of the civilization therein;" and that "such an exhibition should be of a national and international character, so that not only the people of that territory, but of our Union, and of all nations as well, can participate, and should therefore have the sanction of the Congress of the United States."



WILLIAM McKINLEY,
TWENTY-FIFTH PRESIDENT OF THE UNITED STATES;
BORN 1843, DIED 1901.

By his approval the Act of Congress authorizing the holding of an Exposition in commemoration of the Louisiana Purchase became a law, and by his proclamation the nations of the earth were invited to participate in the Exposition.

The salient provisions of that Act were:

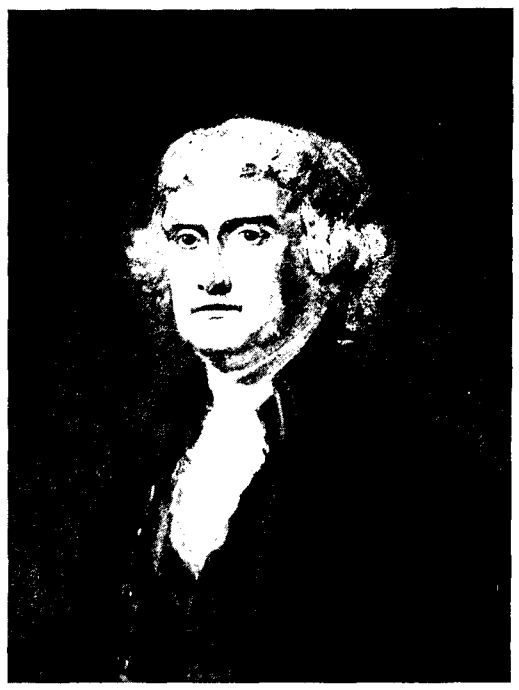
(*a*) That the Exposition be held at St. Louis in the year 1903.†

(*b*) That the dedication occur "not later than the thirtieth day of April, 1903;"‡ that the opening occur "not later than the first day of May, 1903;"† that the closing occur "not later than the first day of December, 1903."†

(*c*) That the President of the United States, when provision for the Exposition grounds and buildings should be made, issue a proclamation of the same and inviting the participation of the nations of the earth.

(*d*) That articles imported into the United States for exhibition at the Exposition be admitted free of duty.

(*e*) That the President of the United States appoint a Louisiana Purchase Exposition Commission, with certain jurisdiction over the Exposition.



THOMAS JEFFERSON,
AUTHOR OF THE DECLARATION OF INDEPENDENCE, AND THIRD PRESIDENT OF THE UNITED STATES;
BORN 1743, DIED 1826.

"The most important event of Jefferson's quiet first term was the purchase of Louisiana from the French. **This step was deemed unconstitutional by him, but the necessity of controlling the Mississippi** and the obvious need of haste abundantly justified the action." (New International Encyclopedia.)

NAPOLEON BONAPARTE,
EMPEROR OF THE FRENCH; BORN 1769, DIED 1821.

"France had lost her colonial empire in the eighteenth century, and it was the fond hope of Bonaparte that he might restore it. . . To this end he began a series of enterprises which embraced every quarter of the globe. . . He secured the cession of Louisiana from Spain, and sent an army to recover Haiti, where the blacks had successfully risen against their oppressors. . . Bonaparte's colonial schemes were frustrated by yellow fever, which destroyed General Leclere and his army in Haiti and forced the Consul to sacrifice Louisiana to the United States (1803) and abandon his dream of empire beyond the seas. (New International Encyclopedia.)

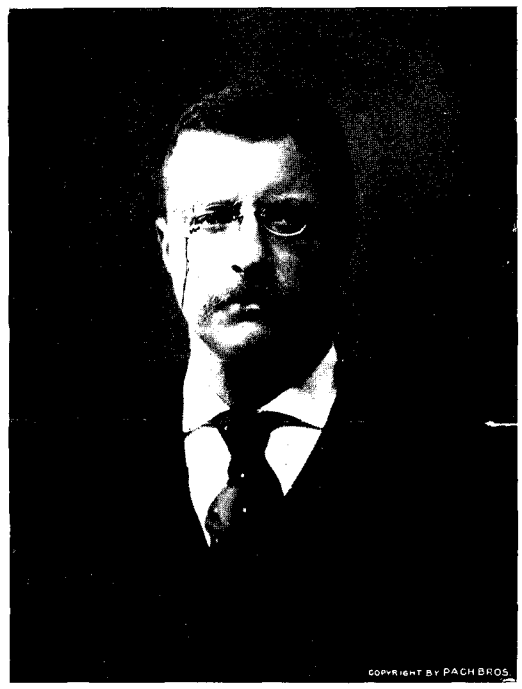
(*f*) That a Board of Women Managers for the Exposition be appointed.

(*g*) That an exhibit be made by the several Executive Departments of the United States Government and certain institutions thereof, and a United States Government Board be appointed by the heads of those Departments and institutions, said Board to have charge of the Government exhibit and buildings.

(*h*) That the necessary buildings for the Government exhibit be erected, appropriating therefor $250,000.

(*i*) That a life-saving building be erected and a life-saving exhibit made at the Exposition, and appropriating $8,000 therefor.

(*j*) That the sum of $5,000,000 be paid from the United States Treasury to the aid of the Exposition, to pay the expenses of the National Commission, etc.



THEODORE ROOSEVELT,
TWENTY-SIXTH PRESIDENT OF THE UNITED STATES; BORN 1858.

By his approval several Acts of Congress making important provisions for the Louisiana Purchase Exposition have become laws, and the postponement of the Exposition from 1903 to 1904 was announced by his proclamation. In 1903 the Exposition buildings were dedicated by him. On April 30, 1904, by telegraphic communication from Washington he declared the Exposition open to the world and put in motion the machinery throughout the grounds.

(*k*) That "as a condition precedent to the payment of this appropriation the directors shall contract to close the gates to visitors on Sundays during the whole duration of the fair."

The proclamation of President McKinley follows:

By the President of the United States of America
A Proclamation

WHEREAS, notice has been given me by the Louisiana Purchase Exposition Commission in accordance with the provisions of Section 9 of the Act of Congress, approved March 3, 1901, entitled "An Act to provide for celebrating the one hundredth anniversary of the purchase of the Louisiana Territory by the United States, by holding an international exhibition of arts, industries, manufactures and the products of the soil, mine, forest and sea, in the city of St. Louis, in the State of Missouri," that provision has been made for grounds and buildings for the uses provided for in the said Act of Congress.

* This legislation was anticipated by a preliminary provision for the National Commission contained in the Sundry Civil Appropriation Act approved June 6, 1900, the earliest Congressional action relating to the Exposition.

† Subsequent Congressional action postponed these dates one year.

‡ On this date the dedication was celebrated auspiciously.

UNITED STATES GOVERNMENT BOARD

LOUISIANA PURCHASE EXPOSITION

1904

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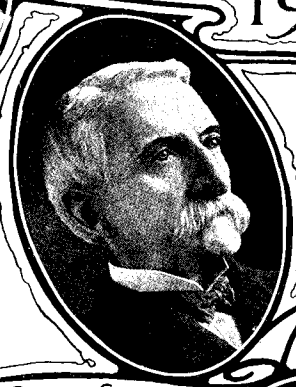

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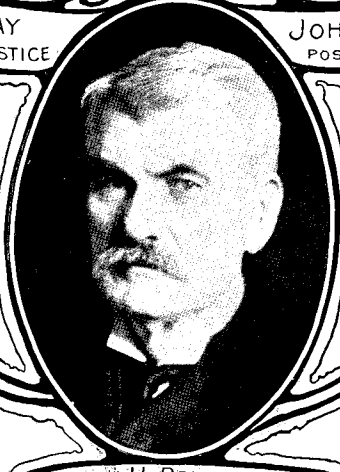

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WILLIAM V. COX
SECRETARY

WILLIAM M. GEDDES
DISBURSING OFFICER

Now, therefore, I, William McKinley, President of the United States, by virtue of the authority vested in me by said Act, do hereby declare and proclaim that such international exhibition will be opened in the city of St. Louis, in the State of Missouri, not later than the first day of May, nineteen hundred and three, and will be closed not later than the first day of December thereafter. And in the name of the Government and of the people of the United States, I do hereby invite all the nations of the earth to take part in the commemoration of the Purchase of the Louisiana Territory, an event of great interest to the United States and of abiding effect on their development, by appointing representatives and sending such exhibits to the Louisiana Purchase Exposition as will most fitly illustrate their resources, their industries and their progress in civilization.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caus I the seal of the United States to be affixed.

Done at the City of Washington, this twentieth day of August, one thousand nine hundred and one, and of the Independence of the United States the one hundred and twenty-sixth.

[SEAL]

By the President: WILLIAM McKINLEY.

JOHN HAY, *Secretary of State.*

In the Sundry Civil Appropriation Act approved by President Roosevelt on June 28, 1902, further Exposition legislation was included, the principal provisions being:

(*a*) Appropriating $800,000 to meet the expenses of the Government exhibit.

(*b*) That representatives of the different Indian tribes be assembled at and as a part of the Exposition, and an exhibit made from the Indian agencies, schools, etc., and appropriating $40,000 therefor.

(*c*) Appropriating an additional sum of $200,000 (making a total of $450,000) for the Government exhibit buildings.

(*d*) Postponing the opening and closing of the Exposition from 1903 to 1904.

(*e*) Authorizing the coinage at United States mints of 250,000 "Louisiana Exposition gold dollars."

President Roosevelt's proclamation announcing the postponement of the Exposition follows:

By the President of the United States of America
A Proclamation

WHEREAS, the President on August 20, 1901, issued his proclamation stating that he has been advised by the Louisiana Purchase Exposition Commission, pursuant to the provisions of Section 9 of the Act of Congress approved March 3, 1901, entitled "An Act to provide for celebrating the one hundredth anniversary of the purchase of the Louisiana Territory by the United States by holding an international exhibition of arts, industries, manufactures and the products of the soil, mine, forest and sea in the City of St. Louis, in the State of Missouri," that provision had been made for grounds and buildings for the uses specified in the said mentioned act of Congress;

WHEREAS, it was declared and proclaimed by the President in his aforesaid proclamation that such international exhibition would be opened in the City of St. Louis, in the State of Missouri, not later than the first day of May, 1903, and be closed not later than the first day of December thereafter;

AND WHEREAS, Section 8 of the Act of Congress approved June 28, 1902, entitled "An Act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, one thousand nine hundred and three, and for other purposes," fixes a subsequent date for the holding of the said international exhibition and specifically states that said commission shall provide for the dedication of the buildings of the Louisiana Purchase Exposition, in said city of St. Louis, not later than the thirtieth day of April, nineteen hundred and three, with appropriate ceremonies, and thereafter said Exposition shall be opened to visitors at such time as may be designated by said company, subject to the approval of said commission, not later than the first day of May, nineteen hundred and four, and shall be closed at such time as the national commission may determine, subject to the approval of said company, but not later than the first day of December thereafter;

Now, Therefore, I, Theodore Roosevelt, President of the United States, do hereby declare and proclaim the aforesaid provision of law to the end that it may definitely and formally be known that such international exhibition will be opened in the City of St. Louis, in the State of Missouri, not later than May 1, 1904, and will be closed not later than December 1 of that year.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington, the 1st day of July, one thousand nine hundred and two, and of the independence of the United States the one hundred and twenty-sixth.

[SEAL]

By the President: THEODORE ROOSEVELT.

DAVID J. HILL, *Acting Secretary of State.*

Further Exposition legislation was included in the Sundry Civil Appropriation Act approved by President Roosevelt on March 3, 1903, as follows:

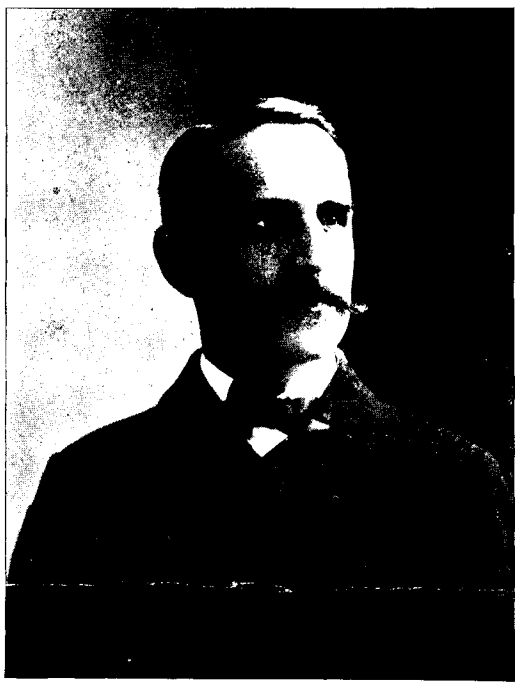
(*a*) Appropriating $100,000 for an additional Government exhibit to be made under the direction of the Government Board, from the agricultural colleges and experiment stations receiving national aid.

(*b*) Appropriating $50,000 for an exhibit from the District of Alaska and a building therefor.

(*c*) Appropriating $25,000 toward an exhibit from Indian Territory and a building therefor.

Still further Exposition legislation was included in the Urgent Deficiency Appropriation Act approved by President Roosevelt February 18, 1904, the principal provision being: Appropriating $4,600,000 as a loan to the Exposition Company toward completing and opening the Exposition, this loan to be secured by a first lien on the receipts from admissions and concessions.

The following table shows the generous appro-



HON. JAMES A. TAWNEY,

OF MINNESOTA,

Chairman, Committee on Industrial Arts and Expositions, U. S. House of Representatives. "In Mr. Tawney the Louisiana Purchase Exposition had a great friend and an able champion."

priations made by Congress for various purposes in connection with the Exposition:

In aid of the Exposition	$5,000,000
For Government exhibit	800,000
For Government exhibit buildings	450,000
For life-saving building	8,000
For agricultural college exhibit	100,000
For Indian exhibit	40,000
For Alaskan exhibit and building	50,000
Toward Indian Territory exhibit and building	25,000
Loan to complete and open Exposition	4,600,000
Aggregating	$11,073,000

The scope and purpose of the Government exhibit, and the organization of the Government Board, is stated in that portion of the Act of March 3, 1901, reading:

> That there shall be exhibited at said Exposition by the Government of the United States from its Executive Departments, the Smithsonian Institution, the National Museum, the United States Commission of Fish and Fisheries, and the Department of Labor, such articles and material as illustrate the function and administrative faculty of the Government in time of peace and its resources as a war power, tending to demonstrate the nature of our institutions and their adaptation to the wants of the people; and the Bureau of the American Republics is hereby invited to make an exhibit illustrating the resources and international relations of the American Republics, and space in the United States Government Building shall be provided for the purpose of said exhibit; and to secure a complete and harmonious arrangement of such Government exhibit a board, to be known as the United States Government Board, shall be created, independent of the commission hereinbefore provided, to be charged with the selection, purchase, preparation, transportation, arrangement, installation, safe-keeping, exhibition and return of such articles and material as the heads of the several Executive Departments, the Secretary of the Smithsonian Institution, the Commissioner of Fish and Fisheries, the Commissioner of Labor, and the Director of the Bureau of the American Republics may, respectively, decide shall be embraced in said Government exhibit. The President may also designate additional articles for exhibition. Such board shall be composed of one person to be named by the head of each Executive Department, one by the Secretary of the Smithsonian Institution, one by the Commissioner of Fish and Fisheries, one by the Commissioner of Labor, and one by the Director of the Bureau of the American Republics. The President shall name one of said persons so detailed as chairman, and the board itself shall appoint its secretary, disbursing officer, and such other officers as it may deem necessary.

In pursuance of the above provision, the following named were designated members of the

UNITED STATES GOVERNMENT BOARD.

Department of State	William H. Michael
Treasury Department	Wallace H. Hills
War Department	John C. Scofield
Department of Justice	*Cecil Clay
Post Office Department	John B. Brownlow
Navy Department	Benjamin F. Peters
Department of the Interior	Edward M. Dawson
Department of Agriculture	Joseph H. Brigham
Department of Commerce and Labor	Carro'l D. Wrig'it
Smithsonian Institution and National Museum	Frederick W. True
Commission of Fish and Fisheries	William deC. Ravenel
Department of Labor	G. W. W. Hanger
Bureau of the American Republics	Williams C. Fox

Joseph H. Brigham, representing the Department of Agriculture, was designated by President McKinley as chairman of the Board, and the Board elected William V. Cox its Secretary and William M. Geddes its Disbursing Officer.

In their relations with the Departments respectively, the members of the board are known as Representatives; and subsequent legislation having provided for exhibits from the Library of Congress and from the Colleges of Agricultural and Mechanic Arts and Agricultural Experiment Stations, Roland P. Falkner was designated as Representative for the Library and A. C. True as Representative of the Colleges and Stations, neither being a member of the Board, however.

* Cecil Clay succeeded the original appointee from the Department of Justice, Frank Strong, who died on July 25, 1903.

United States Government Building.

MAIN STRUCTURE.

Description.

The buildings housing the Government exhibits at the Exposition, all of which have been erected from designs prepared by the Supervising Architect of the Treasury Department, are the Main Government Building, the Commission of Fish and Fisheries Building, and the Life-Saving Service Building, the appropriation for the first two of these being $450,000 and for the last $8,000.

In designing these structures an effort was made to treat them in a dignified way, as being thus more properly representative of the United States Government and not unpleasingly in contrast to the more frivolous designs of various other buildings.

The Government Building is situated on a slight eminence ("Government Hill") about 25 feet above the level of the main Exposition picture. It closes the vista of one of the principal Exposition streets. It is approached centrally by a flight of 44 steps, 160 feet in width and two curved ramps each 42 feet wide. Secondary flights of steps each 56 feet in width give access to the end pavilions.

The building is 760 feet long and 180 feet wide, with central and end pavilions 246 feet long. It consists of a wood frame covered with staff. There are no interior posts, the roof being supported by twenty-two elliptical steel trusses, 35 feet apart. These trusses have a clear space of 175 feet, with a rise of 70 feet at the center.

The architectural style of the building is classic or Pseudo Roman.

The main entrance to the building consists of a portico of eight Ionic columns, 5 feet in diameter and 45 feet high. It is connected with the end porticoes by a colonnade of Ionic columns of the same height and diameter. This forms a fine covered promenade 32 feet above the main Exposition street, across the entire front of the Government Building.

The dome over the center of the building is 90 feet in diameter. The top of the Quadriga which surmounts the dome is 160 feet above the floor of the building and 172 feet above the pavement of the podium.

The Ionic order previously referred to is 56 feet high and carries an attic 12 feet in height; the total height from the podium to the top of the attic being 80 feet.

Besides the conventional ornament which is appropriate to a building of this style, sculptured figures have been freely introduced of a more or less classic type.

The attic of the principal porticoes has been enriched with colossal female figures each 11 feet high, representing Music, Painting, Sculpture, Architecture, Commerce, Manufactures, Transportation and Agriculture. On each side of the central portico and just above the top of the attic are allegorical groups, consisting of a seated female figure 14 feet high representing America, holding a torch (Enlightenment) in one hand and an eagle in the other, surrounded with three youths each 10 feet 6 inches high, typifying the strength and virility of the Republic.

The dome is surmounted with a Quadriga. Standing in a triumphal chariot, drawn by four colossal horses, is a goddess of liberty 14 feet high, bearing a torch in one hand and an eagle in the other. The horses are guided by two nude male figures each 12 feet high. The whole group typifies the "Triumph of the Republic."

Interior Decoration.

In the interior of the Government Building, color has been applied directly to the sheathed walls, and also to the ceiling with its many studs and cross-beams. The color has been used as a stain upon these surfaces, permitting the grain of the wood to show through, thus giving a value and quality to its great stretches not obtainable by even toning.

The walls are stained green to within fifteen feet of the floor, where a moulding is placed, below which burlap of the same green has been stretched as a background for the exhibits. A wide, gold frieze, bordered by bands of deeper green and red, surmounts the green wall. Alternating motives in plaster—the United States shield surrounded by laurel leaves, and an oval device bearing thirteen stars and similarly surrounded—are placed at regular intervals upon this gold surface, the shield appearing in the national colors, and the laurel leaves in green.

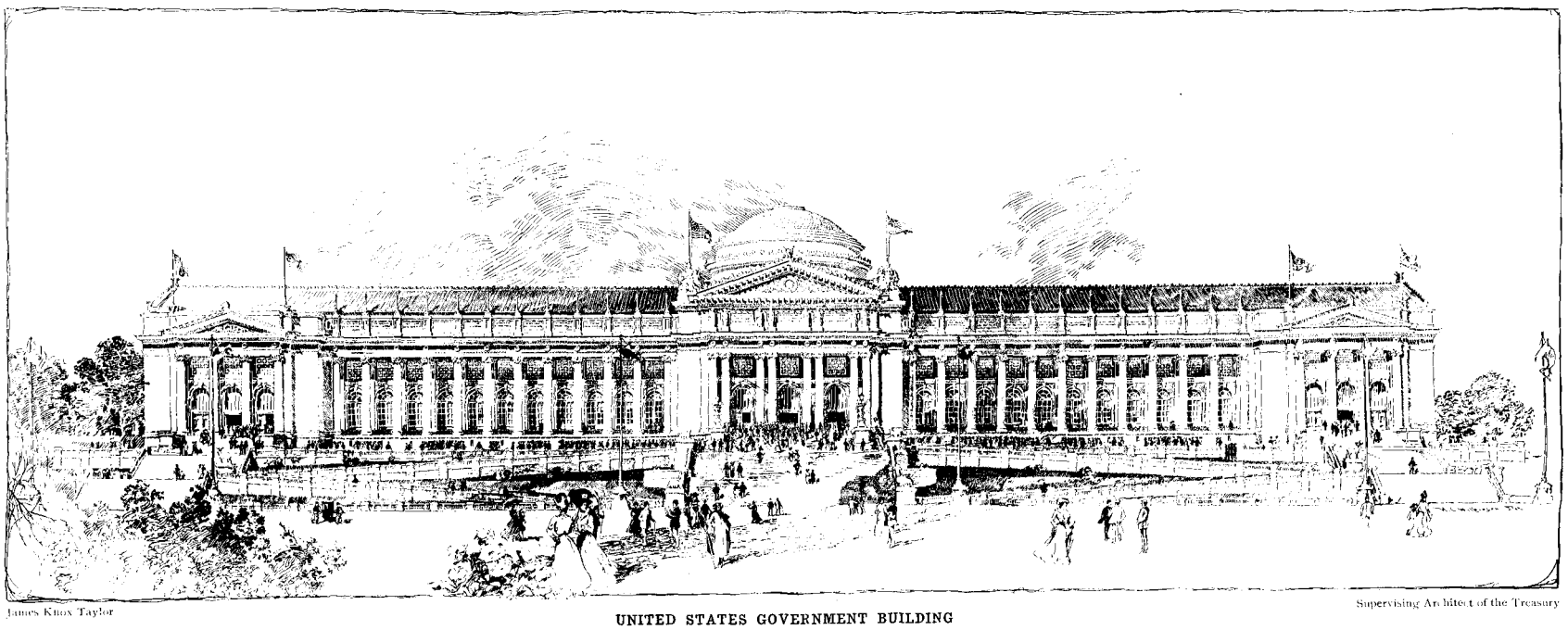
A deep, dull blue stain covers the entire sloping ceiling, broken only by the double rows of clerestory windows, which are stippled white.

The steel arched trusses and connections are painted a rich red, forming, as it were, a part of the decorative network of color, behind which may be seen from any point the blue of the ceiling and the green of the walls.

Immediately around the triple entrances at the ends of the Building, a green stain, lighter in tone than the surrounding wall, has been used, above which is a tympanum-shaped field of gold. In the center of this gold field is a group of United States flags and shield, and bordering this and the lighter-stained surface beneath are bands of the dark blue, red and green extending to the floor.

Above the entrances at the center of the Building, and at the base of the blue-stained walls of the dome, are similar groups of flags.

The windows of the entire Building are stippled white, as in the clere-story, giving a soft diffused light throughout the whole interior.



James Knox Taylor — UNITED STATES GOVERNMENT BUILDING — Supervising Architect of the Treasury

Exhibit Arrangement.

The exhibits of the Government are all assembled in the main structure, with the exception of those of the Commission of Fish and Fisheries and the Life-Saving Service, which are in separate buildings, and several special outdoor exhibits, such as the Aviary of the National Zoological Park, the model camp of marines, the big guns of the War Department, and the map-plot of economic plants prepared by the Bureau of Plant Industry. These special exhibits are described elsewhere in this GUIDE under their respective heads, and their locations are shown on the plan of the Exposition grounds printed on another page.

In the Government Building are exhibits of the following-named Departments, occupying floor space approximately as here given, the locations of the spaces being shown on the accompanying floor plan of the Building:

	Square feet.
Department of State	2,594
Treasury Department	7,000
War Department	15,061
Department of Justice	2,019
Post Office Department	13,954
Navy Department	15,061
Department of the Interior	11,217
Department of Agriculture	17,034
Department of Commerce and Labor	6,598
Smithsonian Institution and National Museum	15,032
Bureau of the American Republics	2,019
Library of Congress	2,136
A total exhibition floor area of	109,725

The aggregate floor area of the Building is 136,500 square feet, something in the neighborhood of 26,775 square feet being devoted to the main aisles. The principal aisle extends laterally through the Building, crossed at the center by a transverse aisle, each of these being 20 feet in width. At either end of the Building, extending through the bay, there is a transverse aisle 16 feet in width.

In the center of the Building and beneath the dome, on a circular space 20 feet in diameter, there has been constructed a full-size reproduction in plaster of the colossal statue which surmounts the dome of the United States Capitol at Washington, variously designated, but generally known as Statue of Liberty.

In the four corners of the Building, on a mezzanine floor, are located the several offices of the Government Board, its officers, and the Department Representatives.

Accounts of the exhibits in the Government Building follow:

EXHIBITS.

DEPARTMENT OF STATE.
William H. Michael, Representative.

The exhibit of the Department of State, with which is incorporated that of the President's Office, is designed to present, briefly, the history of the establishment of the Government of the United States, a history of the Department of State from the first establishment of a Foreign Office, and a portrayal of its functions and present methods of administration. The diplomatic and consular service being under the direction of the Secretary of State, a descriptive exhibit of these branches of the public service is also made.

On the part of the White House, the Department presents a life-size portrait in oil of President Roosevelt, by Redding Kelly; and wash-drawings of all the Presidents since Washington. Grouped around the portrait of each President are the Vice-President (and where the Vice-Presidency has become vacant, the President pro tempore of the Senate), and all of the Cabinet members holding office during his administration. A set of pictures represents each house which has been occupied as Presidential mansion since the establishment of the Government.

In this connection are displayed samples of official stationery used at the White House, and an impression of the seal of the President's Office.

The exhibit of the Department proper begins with a fac-simile of the Declaration of Independence, and grouped around it are the seals of the original thirteen States. A large portrait of Thomas Jefferson, its author, and a smaller picture of each of the other fifty-five signers are shown. A reproduction of Jefferson's rough draft of the document; the desk on which he wrote it; a picture of the house where it was written; one of the desks on which it was finally engrossed and signed; and pictures of Jefferson's home, Monticello, near Charlottesville, Virginia, are also included.

The Articles of Confederation are shown in fac-simile, with portraits of their signers.

The Constitution of the United States, as engrossed, in four sheets, together with the fifteen amendments thereto, are shown in reproduction.

GODDESS OF LIBERTY.

There are also portraits of the President of the Constitutional Convention, George Washington; the Secretary, William Jackson; and all but three of the thirty-six signers of the Constitution.

A special feature is made of the details of the Louisiana Purchase. Life-size busts of Jefferson and Napoleon, the treaty of cession, and correspondence with reference thereto are shown; also a large map in colors, showing within its boundaries the seal of each of the twelve States made from the territory of the Louisiana Purchase.

A set of maps shows the "expansion" of the United States, from the original thirteen to its present bounds.

The Message of President Monroe containing the pronouncement of the Monroe Doctrine is appropriately exhibited.

Pictures are shown of the buildings in which Congress has met, with a large photograph of the Capitol at Washington.

In the historical exhibit may be mentioned a few matters of special interest:

An equestrian statuette of Washington, by Marochetti.

A wedgwood bust of Washington, from the Houdon statue, presented to the United States by Merton Russell Cotes, of England.

Washington's sword, and his eye-glasses, which he bequeathed to Lafayette.

Franklin's staff, and buttons from his court dress.

A large painting of the Obverse of the Great Seal of the United States. Nearby stands the press used in the Department for twenty years in impressing the seal on state papers.

Fac-similes of medals granted by Congress to military and other officers of the Government. Also such medals as are presented by the President of the United States to subjects of foreign countries risking their lives to save American seamen.

Proclamations of the Presidents. Fac-similes are shown of one proclamation signed by each of the Presidents, excepting William H. Harrison and Garfield.

Wash-drawing portraits are displayed of Livingston and Jay, Secretaries of Foreign Affairs, and a portrait of each Secretary of State from Thomas Jefferson to John Hay.

Photographs are exhibited of the different buildings which have been occupied by the Department of State. Many large interior views have been taken of the present offices of the Department.

Large views are shown of the Embassies and Legations of the United States abroad, and a complete set of our Consular establishments in foreign countries.

The style of recording and perpetuating international compacts is set forth by a collection of exchange copies of some of the treaties between the United States and foreign powers. In this connection is shown a copy (plaster-cast) of a treaty of 446 B. C., between the Athenians and the Chalcideans.

Ceremonial letters accrediting and recalling diplomatic officers, and announcing births, marriages and deaths in royal families, are displayed, among them letters of Franklin, Deane and Lee, announcing their mission to the French Republic, 1776.

The details of correspondence with reference to the collection of claims from foreign governments, as well as that leading up to the extradition of criminals, are appropriately shown.

Samples of commissions to officers of the Government, exequaturs granted to foreign Consular officers resident in this country, and passports issued to American citizens, are exhibited.

The routine of correspondence and the transaction of public business of the Department is exemplified by a full set of the stationery and blank forms used in the Department and in the Diplomatic and Consular Service.

The laws of the United States are preserved and promulgated by the Department, and an exhibit shows the form of the original law and the steps in its printing, first in slip form and finally in the Statutes at Large.

TREASURY DEPARTMENT.

Wallace H. Hills, Representative.

The exhibit of the Treasury Department includes displays from the Office of the Secretary of the Treasury, the Supervising Architect's Office, the Bureau of Engraving and Printing, the Life-Saving Service, the Office of the Treasurer of the United States, the Bureau of the Mint, and the Bureau of Public Health and Marine Hospital Service.

Office of the Secretary.

On the wall space of the Department hangs an oil portrait of the present Secretary of the Treasury, Leslie M. Shaw, and also similar portraits of the following-named former Secretaries:

Robert Morris, McCullough, Carlisle, Chase, Hamilton, Sherman, Fessenden, Gallatin, Folger, Manning, Gage.

Supervising Architect's Office.

From this Office there is exhibited a series of models and a series of drawings, representing various important public buildings which have been erected or are in course of construction, under the direction of the Supervising Architect. The drawings represent the following-named buildings:

Government Buildings, Trans-Mississippi Exposition, 1898, Omaha, Neb.

Government Buildings, Pan-American Exposition, 1901, Buffalo, N. Y.

Government Buildings, Louisiana Purchase Exposition, 1904, St. Louis, Mo.

Court House and Post Office, Seattle, Wash.

Post Office, Rome, N. Y.

Post Office, Annapolis, Md.

Post Office, Aberdeen, S. D.

Post Office, Kansas City, Kas.

Post Office, Lawrence, Mass.

Court House and Post Office, Cumberland, Md.

The models represent the following-named buildings:

Court House, Custom House and Post Office, Cleveland, O.

Custom House, Baltimore, Md.

Court House, Post Office, etc., Chicago, Ill.

Bureau of Engraving and Printing.

The principal feature of the exhibit of this Bureau consists of a printing press in operation, illustrating the method of plate printing used in the Bureau. On this press specimen plates of a special design are printed in view of the visitors. The Bureau also exhibits the following:

A large frame containing specimens of the engraved portraits and vignettes executed by the Bureau. In this collection there is a complete set of the portraits of the Presidents of the United States, and of the Secretaries of the Treasury, together with a number of fine vignettes used on notes and securities.

A large frame containing specimens of the bonds, notes, certificates, and other obligations issued by the United States.

Two small frames containing specimens of the most recent engravings of securities produced by the Bureau.

A frame containing three panels, mostly internal revenue stamps, with portraits of the President and the Cabinet.

A frame containing three panels, mostly specimens of postage stamps, including the latest issue of such stamps, amongst others, the commemorative series issued for the Louisiana Purchase Exposition.

A frame containing specimens of notes, bonds, etc., and showing all the processes from blank paper to a finished note.

A stand with glass case containing an exhibit of the implements used in the work of engraving and printing, such as bed pieces, or dies, lathework, rolls and impressions.

Three similar stands with glass cases each containing three panels of notes, stamps, portraits and vignettes. The feature of the exhibit in these cases is the notes and stamps prepared for Cuba and the insular possessions of the United States.

A geometric lathe for tracing the intricate line work shown on bonds and notes.

Life-Saving Service.

The exhibit of this service is made outside the Government Building, and consists of a life-saving station, located on a small artificial lake on the Exposition grounds, and completely manned and equipped. The station, exhibits and drills are described elsewhere in this GUIDE.

Office of Treasurer of United States.

An interesting feature of the Department's exhibit is an old "cutting knife" which was used in the Office of the Treasurer of the United States from 1863 to 1899. United States paper currency redeemed by the Treasurer is put up in packages of the same denomination, the notes are then cut in half lengthwise, the lower half is sent to the Office of the Secretary of the Treasury, and the upper half to the Office of the Register of the Treasury for verifications of the count.

OBVERSE SIDE.
"Official Souvenir Medal, coined in U. S. Mint Exhibit, Treasury Department."

The historic knife here exhibited was used in cutting in this manner 2,601,784,036 separate pieces of paper currency, representing in total face value $5,586,688,858.96.

REVERSE SIDE.

Bureau of the Mint.

On the space of this Bureau visitors may see all the various operations required in the production of either gold or silver coins, except the assaying and refining of the metal.

The coinage of money is a process involving a large variety of operations, and on account of the small tolerance which the Government allows, both in weight and fineness, special care must be taken to obtain accurate adjustment of the machinery. Tolerance in the variations in weight is allowed by law from a given standard. There is a less tolerance allowed for gold than for silver.

All the machines in the exhibit are driven by electric motors. The gas for all heating operations, such as annealing, melting, etc., is manufactured by an independent plant situated outside the Government Building, and so arranged that it can be controlled in the exhibit. Practically all these machines, except the motors and furnaces, were designed and built at the United States Mint, Philadelphia, Pa., especially for this exhibit.

The melting furnaces, the temperature of which for melting the medal alloys is about 2000 degrees F., are used in the first operation, and here the metal is cast into ingots and washed in a dilute solution of sulphuric acid, to free the surface from copper oxide. The ingots are then run through the rolling mill and reduced from one-half of an inch to eighty-five thousandths of an inch. This mill is operated by a fifty horse-power motor, and the power is transmitted to the rolls by means of helical gears and pinions. After rolling, the strips are heated in the strip annealing furnace to soften them for the cutter, and cooled again by use of the water spray.

Formerly, in the annealing process, oxidation took place during this operation, blackening the metal and necessitating special cleaning operation. With gold this is detrimental, because it is difficult to clean off the oxide, but by the use of the water spray the metal is annealed without discoloration.

After the strips are cut to their proper length by the multiple shears, they are blanked by the cutting press, running at 210 strokes per minute. The blanks are then upset in order to have enough metal at the edge for the border of the finished medallion. This tends to harden the edge, and after another annealing in the rotary furnace, cleaning, drying and polishing in the rotary tumbler and drying machine, they are ready for stamping.

The coining press used for this purpose exerts a pressure of 130 tons to properly bring up the design, and requiring only a seven and one-half horse-power motor.

By the side of the large press is a screw press built in 1795 and used at that time for stamping of small coins. There is also a hammer 120 years old, and a small pair of balances used in the United States Mint at Philadelphia.

During the Exposition experiments will be carried on in determining the melting point of the bronze, power required for rolling and cutting, and the amount of gas and air consumed in the furnaces for the various operations. For this work special instruments have been provided.

Public Health and Marine Hospital Service.

The exhibit of this Bureau includes the following:

1. Electro-therapeutic apparatus, consisting of a sixteen plate static machine, a sixteen-inch coil, a wall cabinet, and the necessary apparatus to demonstrate Roentgen and Finsen rays.

2. Machinery demonstrating disinfection at quarantine stations, hospitals and apartments, by means of steam, sulphur di-oxide and formaldehyde.

3. Models of quarantine stations, detention camp and machinery for disinfection, showing arrangement.

4. Traveling laboratory for use in connection with epidemic work.

5. Laboratory for hospital use.

6. Culture of pathogenic germs, in tubes.

7. Micro-photographs of pathogenic germs, etc., in mounted and illuminated stand.

8. Model of operating room.

9. Model of section of hospital ward.

10. Framed photographs of marine hospitals and quarantine stations.

11. Illustration of methods of keeping and preserving clinical records.

12. Library for hospital use.

13. Model showing means of water inspection.

14. Printed annual reports of the Service and bound volumes of public health reports.

WAR DEPARTMENT.

John C. Scofield, Representative.

The exhibit of the War Department, which has been planned to adequately represent the military service of the United States in its present organization and the various functions which it performs, embraces displays from the following branches of the Department: Ordnance Department, Quartermaster's Department, Medical Department, Corps of Engineers, Signal Corps, Artillery Corps, United States Military Academy, and the Gettysburg, the Chickamauga and Chattanooga, the Shiloh, and the Vicksburg National Military Parks.

A number of non-commissioned officers, specially selected from different branches of the service, have been detailed to the exhibit, and will explain and demonstrate the uses of the various articles which are shown.

In addition to the Department's representation in the Government Building, it has several important exhibits outside of the Building on the Exposition grounds, such as the heavy ordnance and the brigade field hospital, which are described elsewhere in this GUIDE. A statement of the Department's exhibits in the Government Building follows:

Ordnance Department.

A conspicuous feature of the exhibit of this department is a full-size model of a 16-inch breech-loading rifle, the original of which is mounted at the Sandy Hook (N. J.) proving grounds. A mountain gun and equipment packed for transportation are exhibited on five lay figures of pack mules, while another of these guns is shown assembled on its carriage ready for firing. A similar contrast is presented by a Colt automatic machine gun on two lay figures of pack mules, showing the method of transporting this gun and its equipment, and another gun of the same type mounted on its field carriage ready for firing, in conjunction with the latter there being also exhibited the tripod upon which the gun is also capable of being attached for firing.

In addition to these, there is a 3-inch rapid-firing field gun with carriage limbered up, a Vickers-Maxim automatic gun mounted on its carriage, and two Gatling guns with carriages.

The penetrating effects of armor-piercing projectiles are illustrated by a perforated piece of 6-inch armor plate, and nearby are shown a number of steel projectiles which have been fired through armor plates. There is also a collection of projectiles for service cannon, and another collection of simulated propelling charges of smokeless powders used in the guns now in service in the United States Army.

A specially interesting feature of the exhibit consists of a series of fifteen machines in operation, illustrating the manufacture of ball cartridges for the Army rifle.

The complete development of portable fire-arms, from a small iron tube fired from a support by means of a lighted match held in the hand, to the latest modern magazine rifle, is shown by a series from the Springfield (Mass.) armory, displayed in two gun racks. In these racks are also shown specimens of a number of well-known early types of breech-loading rifles manufactured in the United States, a few interesting relics and a small collection of modern magazine rifles used in other countries.

Arranged on the wall are series mounted on sample boards, illustrating the various stages in the manufacture of the service rifle and carbine, and of the officers' sabre and cadet sword, as well as a number of automatic pistols, and revolvers.

On other sample boards are shown fuses for various kinds of ammunition, and samples of primers of different sorts.

The construction of ammunition is shown on shelves by a series of sectionalized specimens. Samples of small arms, ammunition and of smokeless powders are also exhibited.

The remaining portion of the exhibit of this department includes a series illustrating the methods used in packing ammunition for transportation and for protecting it from exposure.

The exhibit of the Ordnance Department located outside of the Government Building, representing the armament employed in siege and seacoast fortifications, is described elsewhere in this GUIDE.

Quartermaster's Department.

Thirty-three lay figures are used to display the uniforms worn by officers and men of the United States Army, classified according to service in the United States, in the tropics and in the arctics. A glass case contains an interesting collection showing the development of the Army boots and shoes in use from 1857 to the present year, and in wing frames on a column are shown forty-eight plates illustrating the uniforms of the Army from 1776 to the present time.

The silk colors, standards and guidons of the Army form a picturesque exhibit, as does a set of six miniature models of the different tents used by the Army.

A life-size lay figure of a pack mule, fully equipped, represents the method of securing the ordinary load to the mule, the load in this instance being two sacks, presumably of grain. United States Army transportation in Alaska is shown by means of a dog sled and harness, and the Army transportation means available to the troops on their arrival in the Philippine Islands in 1898 is represented by a figure of a Philippine carabao and a carabao cart.

A model of Arlington National Cemetery, which is under the care of the Quartermaster's Department, forms an accurate representation of this exceedingly interesting historic site, all of its principal features being distinctly reproduced.

Outside of the Government Building, the Quartermaster's Department exhibits several wagons used in the United States Army, described elsewhere in this GUIDE.

Medical Department.

The exhibit of this department consists of a brigade field hospital, located outside of the Government Building on the Exposition grounds, and described elsewhere in this GUIDE.

Corps of Engineers.

The exhibit of the engineer department consists mainly of a large number of accurate models of various important works of the Corps of Engineers. Many of these models relate to river and harbor improvements and canal constructions. With reference to the Mississippi River there is a working model of the reconstructed reservoir dam at the headwaters of this river located at Pokegama Falls, Minn.; a sectional model of the Falls of St. Anthony, Minn.; six models of works and apparatus used in improvements to the upper Mississippi River, and one of the United States Snagboat H. G. Wright, used in removing snags and obstructions from this stream. Models of the Osage dam and of a standard dike and a drum weir on the Missouri River are also shown, as well as a model of Davis Island dam on the Ohio River, five miles below Pittsburg, Pa.

Other models, accompanied by photographs and drawings, represent the Superior Entry and the Duluth ship canals; another model, representing similar works in this region, being that of the Marquette breakwater in Lake Superior, views of which are also shown. The great Sault canal locks are not only shown by a model, with photographic views, but a pamphlet which is distributed to visitors gives the statistical data regarding the canal.

Conspicuous among the models of harbor improvements is a series representing the entrance to New York (N. Y.) harbor, including five models of typical ocean vessels entering this harbor and showing the increase in the size of such vessels during the nineteenth century, and a working model of a harbor dredge in a glass-sided tank, representative of the type of the two dredges now being built for the United States Government to hasten the completion of the improvement work at this point. The Charleston (S. C.) harbor model is so constructed as to show the condition of the bottom before and after the jetties were built.

Two models show the typical unit or filter of the filtration plant of the Washington (D. C.) aqueduct, and the famous Cabin John Bridge, designed to carry the conduit across a deep ravine. At the date of the erection of this bridge (1857-1864) and for forty years thereafter, it was the largest single-span stone arch in the world.

Models are also exhibited of the Tillamook Rock (Ore.) light-station and of Blossom Rock at San Francisco, Cal. A particularly interesting model is one of the Government Printing Office at Washington, the largest and the most modernly equipped plant of its kind in the world.

MISSISSIPPI RIVER COMMISSION.

A very comprehensive exhibit is made by this Commission, comprising many models, photographs, drawings and printed volumes. A number of atlases and separate maps of the Mississippi River, and of the alluvial valleys of the upper and lower Mississippi, are shown with reference to the physical character of the region through which the stream courses, its banks, the Commission's dredging and survey work and the processes employed in the preparation and printing of its maps. Models show contruction work and tranportation facilities on this river, supplemented by instruments, photographs, etc. The exhibit as a whole demonstrates the importance and extensiveness of the improvement work on the Mississippi carried on by the Commission.

UNITED STATES LAKE SURVEY.

The present jurisdiction of the Lake Survey, an organization under the Corps of Engineers, is over the Great Lakes and their connecting waters, and the nature of its work is the surveying of this vast area, preparing and issuing charts for navigation uses, publishing a bulletin containing various information regarding these waters, and taking measurements and observations with reference to the flow of the several lakes with a view to maintaining them at a definite elevation.

The Survey's exhibit includes a model of a triangulation station from which observations and measurements are made, a sounding machine, two styles of self-registering water-level gages, several meters used in measuring the velocity and character of the flow of running water, and a model of a display gage by means of which vessels are notified of prevailing depths of water.

"REAR GUARD PROBLEM FROM THE ENGINEER POINT OF VIEW."

This is the designation of a unique exhibit which is made on behalf of "G" Company, Twenty-second Regiment, Engineers, National Guard of New York, the work represented by the exhibit having

been executed entirely by that Company. A numerous defeated army is supposed to be about to retreat over a river in order to reach a railway terminal over which to escape; and the exhibit—consisting of a flat reconnaissance map of the district, a relief model showing various physical features of the district and indicating the work the engineer troops will find necessary, and a second relief model on a larger scale showing this work completed—forms the solution of the problem.

Signal Corps.

The apparatus used by the Signal Corps of the United States Army is completely represented in an exhibit which embraces visual signaling for the transmission of messages day or night by means of heliographs, flags, acetylene lanterns, field glasses and telescopes; various types of telephones, telegraph instruments and "buzzers;" the artillery type telautograph, for electrically reproducing at a distance handwriting, drawing, etc.; typewriting telegraphy, wireless telegraphy, and cable telegraphy. Practical demonstrations with these apparatus are given by Signal Corps men for the enlightenment of the visitors, forming a specially interesting feature of the exhibit. Enlarged photographs are shown to illustrate the scenes of interest incident to the operations of the United States Army in the Philippine Islands, where the views were made.

A series of models represents a section of a Signal Corps field train, including lance truck, battery wagon, and wire wagon, used in constructing temporary and semi-permanent lines of communication in the field.

A tableau represents a field telegraph office in the Philippine Islands, such as is typical of the Signal Corps during active field operations in those islands. It shows a native hut temporarily occupied by operators of the Corps during an engagement, with complete equipment.

A relief model of an ideal harbor and its defenses illustrates the means by which communication with each other is maintained by cable and land lines; and another relief model illustrates the telegraphic and telephonic inter-communication provided for an encampment of a division of troops.

An interesting collection of topographical relief maps illustrates—

(*a*) The work performed by the Signal Corps in the Philippine Islands since the occupation of Manila by the American forces in August, 1898.

(*b*) The telegraph lines constructed, restored and operated by the Signal Corps in Cuba after the occupation of the island by the American forces.

(*c*) The telegraph lines and cables constructed and operated by the Signal Corps in Alaska.

(*d*) The telegraph lines constructed and operated by the Signal Corps in Porto Rico from July, 1898, to February, 1901.

(*e*) The route of the telegraph line constructed by the American and English signal and telegraph men in China during the advance of the Allied Armies to Pekin and during the later occupation of the territory.

Artillery Corps.

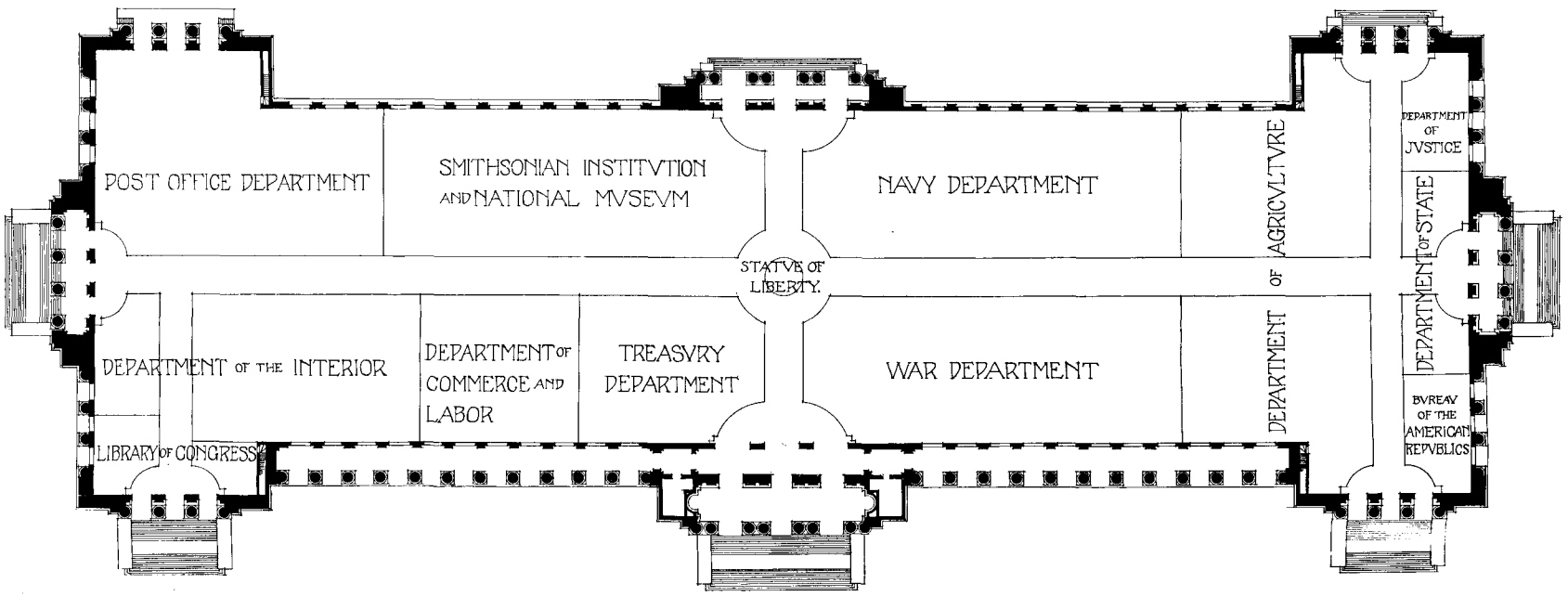
The representation of the Artillery Corps is confined to an exhibit made by the Torpedo Board. The principal feature of the exhibit is a tank showing a miniature mine field with shore connections and protecting guns, in which tank is a floating model of a man-of-war; and this is supplemented by a full-size submarine mine, with cable connections as actually used, and a drawing showing typical arrangement of a mine field. The tank represents part of a harbor entrance with mines planted, which can be plainly seen so as to demonstrate the automatic firing from the vessel striking the mine, as well as judgment firing by means of electric control of each mine from shore.

United States Military Academy.

The exhibit of the Military Academy is displayed in a special pavilion, constructed in imitation of stonework and in the style of the Cadet Barracks at the Academy. On the exterior walls are a number of bronze shields bearing the names of graduates of the Academy who have received the thanks of Congress or the medal of honor or commissions for distinguished service, graduates who have held high office in the Government or civic life, and those who have been killed in battle since 1802. Directly upon the walls, under the cornice line, in bronze letters, are the names of eighty-eight graduates who have held high military command as general officers in the Armies of the United States.

The interior of the pavilion is divided into alcoves by partitions. Upon the frieze of the interior walls, in bronze letters, are the names of deceased professors and heads of instruction departments of the Academy; upon the walls of the passageways leading to the pavilion are shown, on tablets, the names of all graduates who have held the full rank of General Officer in the United States Armies or in the Armies of the Confederate States, with thirty-eight portraits of the leading officers of each service; lists, with biographical data, of all Superintendents and Professors of the Academy, with portraits; a table of fifty greatest battles of the Civil War commanded on both sides by graduates of the Academy; a list of all battles since 1802 in which graduates have participated; a table showing civil occupations of all graduates, etc., etc.

In the alcoves are tables on which are displayed various models and textual exhibits, and in the center of the enclosed space is a large trophy of arms and an exhibit of swords of distinguished graduates. A very extensive collection of photographs illustrates every phase of the educational system and the existing plant of the Academy. On lay figures are shown the different uniforms of the cadets of the Academy.



James Knox Taylor — Supervising Architect of the Treasury

FLOOR PLAN UNITED STATES GOVERNMENT BUILDING

Chickamauga and Chattanooga National Military Park.

The Commission in control of this park, under the War Department, exhibits a relief model of the park and a series of forty photographic views of the important points and features of the famous battlefields which it embraces.

Gettysburg National Military Park.

The Commission for this park exhibits a relief map of the park, together with a large number of framed maps and plans, and many photographic views illustrating the layout of the battlefield, the position of troops before, during and after the battle, the topographical features of the park, the preservation and improvement work done by the Commission, and the monuments and other commemorating features which have been placed in the park. A set of the Reports of the Commission are also exhibited.

Shiloh National Military Park.

The exhibit made by the Commission for this park embraces two large framed maps of the first and the second days' battles; 24 photographic views of

historic points and commemorative features of the park; a James Rifle gun of 1862 type, mounted on a cast-iron gun carriage, and several historical tablets and markers—the gun and tablets having been temporarily taken from the park for this exhibit.

Vicksburg National Military Park.

In addition to two topographical maps of this park, the Commission in charge exhibits more than 50 photographic views of historic interest pertaining to the battlefield, in duplicate, one set being displayed on wall space and the other bound in an album. Several war-time prints are also shown. A collection of interesting relics from the battlefield consists of spherical shells, shrapnel shell, spherical solid shots, grape shots, conical shells and conical solid shots. Two sets of approved tablet inscriptions are included, one in a single volume and the other in three parts.

DEPARTMENT OF JUSTICE.

Cecil Clay, Representative.

The Department of Justice is charged primarily with the conduct of the legal business of the Government, with a general supervision of the administration of the offices of United States Attorneys, Marshals, Clerks of Courts, and Commissioners, throughout the country, and the care and custody of United States prisoners and penitentiaries. The Attorney-General, who is at the head of the Department, is the legal advisor of the President and of the heads of the Executive Departments, any of whom may request him to render a legal opinion upon matters arising in the conduct of the business of their several Departments. By reason of the nature of its functions, therefore, it has, in comparison with the other Executive Departments, very limited resources for making an exhibit of material objects intrinsically attractive to the average Exposition visitor.

The most important feature of the exhibit consists of a collection of rare and curious documents from the files of the Supreme Court and other courts of the United States, showing the growth and development of their business, curious legal proceedings not generally known to have been had before these courts, and documents relating to cases of national importance and interest. While this part of the exhibit might be supposed to be of no interest to others than members of the legal profession, there is a great deal in it to attract the attention and claim the careful examination of any citizen of average intelligence.

There are also exhibits showing what the Department is doing to properly take care of the Government's prisoners in the most modern and enlightened way. The United States Penitentiaries now in course of construction at Fort Leavenworth, Kas., and at Atlanta, Ga., are represented by pictures and plans.

An interesting section of the exhibit includes pieces of handiwork executed by inmates of penal institutions, embracing objects of great variety. Conspicuous among these is a reproduction of the seal of the Department of Justice carved in wood by a prisoner at the Fort Leavenworth Penitentiary.

The Department's space is divided into two rooms by a partition with a wide, low-arched opening connecting them, the space being so decorated as to give the effect of a couple of library rooms, attract attention of visitors and thereby get them into contact with the exhibit proper.

On the walls hang oil portraits of some of the Attorneys-General of the United States; and immediately surmounting the dado and running around the walls is a complete set of etched portraits of the Attorneys-General, accompanied by short biographical notices, all placed under glass and properly bordered, so as to give the effect of a band of tiles, alternately dark and light in tone.

Here and there have been placed busts of Chief Justices of the United States Supreme Court and other distinguished jurists, some of these being on pedestals and others on brackets.

The decoration of the frieze consists of plaques in high relief, the one in the center of each wall

GODDESS OF JUSTICE.
Drawing by John Cecil Clay, and executed in relief by James F. Eatley.

being a reproduction of the seal of the Department, the others representing wreaths of laurel leaves each surrounding the name of a distinguished American jurist.

In the center of the frieze on the short exterior wall, facing the aisle, is a plaque, larger than the others, containing a bust of Themis, the Goddess of Justice, blindfolded, encircled by a border of leaves, behind which are crossed the scales and the sword, their ends showing outside the border.

POST OFFICE DEPARTMENT.

John B. Brownlow, Representative.

A full description of the exhibit of this Department will be printed in the next issue of this GUIDE.

NAVY DEPARTMENT.

Benjamin F. Peters, Representative.

The Navy Department's exhibit has been planned to present an intelligent idea of the internal and external features of United States men-of-war, of the weapons of the Navy and their uses, of the great docks in which the fighting vessels are placed for repairs, of the actual life and duties of the officers and enlisted men of the Navy and Marine Corps, afloat and ashore, in war and in peace, and of the Government's facilities for educating officers and its methods of enlisting and training men and boys who compose the fighting personnel of the Navy.

United States Man-of-War Model.

The central figure of the exhibit is an exact and full-sized reproduction of that portion of a United States man-of-war from the bow back a distance of 118 feet, the beam at this point being 46 feet, this giving the floor space (or water line) of the structure the shape of a flatiron. The freeboard is 7 feet, 6 inches, and from the water line to the top of the turret 19 feet 9 inches. On the floor surrounding the vessel is a border of canvas 4 feet wide painted in an artistic manner in imitation of water. The figure head on this vessel is the original figurehead of the Olympia, the flagship of Admiral Dewey in the memorable battle of Manila Bay on May 1, 1898. On the upper or main deck are installed two 10-inch guns mounted in barbette turrets, a six-pounder Hotchkiss, a one-pounder light automatic, a .30-caliber Colt, and a Gatling field piece, together with the ship's anchors, windlass and anchor-gear complete; also skylights, hatchways, ventilating cowls and side-ladders. On the starboard side is swung from the davits a 24-foot whaleboat, and on the port side a 20-foot cutter; while in appropriate places on the deck are other equipment and ship's fittings. On the berth deck are installed a torpedo firing-tube and torpedo, one 5-inch rapid-fire gun, and two 3-inch rapid fire guns. The space on the berth deck is divided by water-tight bulkheads into compartments, the long arm system of water-tight doors being electrically operated. Within the turret support on the berth deck are life-size wax figures of officers and enlisted men of a flagship, dressed accurately in the various uniforms, including an Admiral, Captain, Medical Inspector, Pay Inspector, Lieutenant Commander, Lieutenant, Captain of Marines, Midshipmen, Boatswain's Mate, Quartermaster, Bugler, three seamen, a Marine and an apprentice. Openings of a suitable size have been made in the turret support from which a view of the figures and uniforms can be had. On this deck may also be seen the captain's office, state rooms, mess rooms, petty officers' quarters, berths, baths, hammocks, galley, mess tables and equipment, sick bay, operating room, dispensary and ammunition hoists, etc., etc. Below the berth deck is a magazine 18 by 20 by 9 feet, and in this are stored the various kinds of ammunition in use in the naval service. The berth deck is illuminated by electric lights, and proper circulation through air ports, cowls, hatchways, etc., is secured by means of electric fans. All compartments are accessible to visitors, the object being to give them the realistic sense impression only to be had otherwise by going on board an actual man-of-war.

Map of the World with Models of Vessels.

Another interesting and instructive exhibit of the Department is a large map of the world, 20 feet long and 8 feet wide. It is drawn upon white canvas, the various divisions of land and water are appropriately colored, and the exposed surface treated to several coats of transparent varnish. The map is placed on what is similar to a billiard table enlarged twofold in length and breadth, especially designed for the purpose. It covers the world's surface from the sixtieth parallel north to the sixtieth parallel south, and upon it are placed 307 miniature lead models, each representing a battleship, cruiser, monitor, gunboat, torpedo boat, submarine boat, sailing vessel, collier, or tug of the United States Navy, in commission, in ordinary, under repairs, or under construction. The models of cruising vessels are painted white, the torpedo boats green, the colliers and sailing vessels black, and the tugs and yard boats orange. The largest of the models is not more than 1½ inches in length.

The position of each model upon the map indicates the whereabouts of the corresponding vessel of the Navy each day. The models all fly pennants with their respective names on them. The display of a tiny flag on the model signifies that the

corresponding vessel of the Navy is in commission for service; when no flag is displayed it signifies that the corresponding vessel of the Navy is laid up in ordinary, under repairs, or under construction. A glance at this exhibit gives an accurate idea of the number and whereabouts of the vessels of the Navy.

Naval Dock Exhibit.

Another interesting feature of the Department's exhibit is a working model of a graving or dry dock built to scale, illustrating the type and size of docks at various United States navy yards. The model of the dock and basin occupies a space 30 by 9 feet. In connection with the dock is a tank filled with water, representing a basin or harbor, in which a model of the U. S. S. Illinois is floated each day, and the process of docking a ship shown in detail. While the visitor views this working model, the flood gates of the dock are opened, filling the dock with water, the caisson is floated out of position, the ship hauled into its berth, the caisson replaced, and the dock drained, allowing the ship to settle quietly and safely upon the keel blocks, during which the shoring is put in place. The process by which a battleship is placed in position for repairs on her hull below the water line, and for the removal of barnacles, etc., etc., is thus completely and clearly demonstrated.

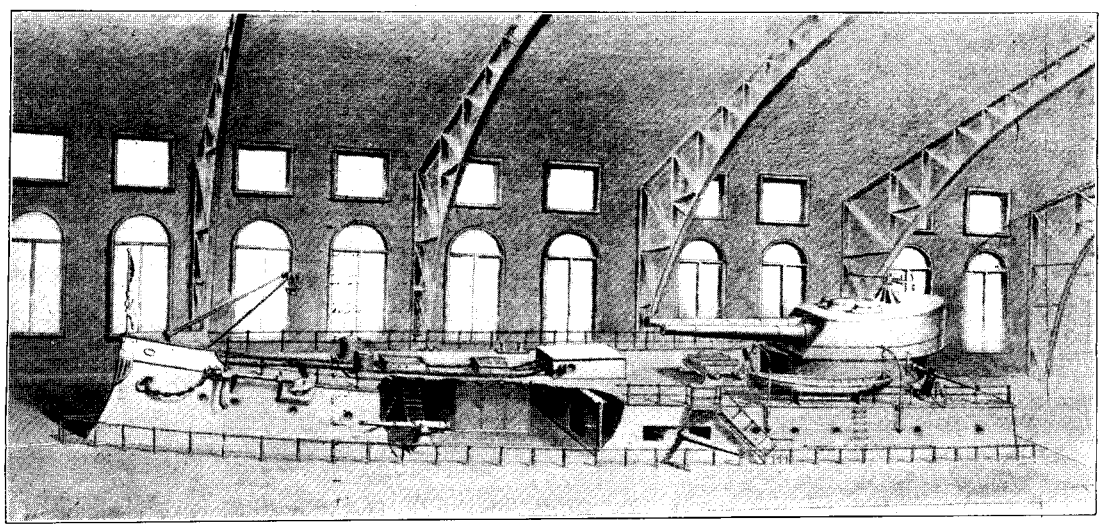
A working model of a steel, floating dry dock is exhibited to illustrate the type recently installed at the New Orleans Naval Station and the Pensacola Navy Yard, and that under construction for the Naval Station in the Philippines. This model is afloat in a tank of water, which also contains a model of a battleship built to the same scale, one-forty-eighth of actual size. All the operations incident to the docking of a vessel in a floating dry dock are performed for the enlightenment of the visitors, including the sinking of the dry dock to the requisite depth by the admission of water into the pontoons, the hauling of the ship into the dock and its centering over the deck of the dry dock as submerged; the raising of the dock by pumping the water from the pontoons until the blocking, previously arranged upon their decks as resting place for the ship, engage her, and, continuing to rise, lift her above the water level, ready for such examination and repairs as may be necessary, such side shoring as may be necessary being adjusted in the meantime. The undocking of the ship is also illustrated, the preceding operations being reversed for this purpose.

United States Naval Academy.

The United States Naval Academy at Annapolis, Md., where future officers of the Navy—the midshipmen—pursue their studies and receive their naval and military training, and for which Congress appropriated $10,000,000, is represented in miniature at the scale of one thirty-secondth of an inch to the foot. This model is 12 by 6 feet and shows the entire layout of the grounds, buildings, roads, paths, water front, etc., and gives a careful expression of the general character of the buildings. The finer details of carving, decoration, moulding, stone courses, etc., displaying in detail the real architectural character of the buildings, is shown by another model, larger in scale, of the new chapel or auditorium, which is one of the principal buildings of the group. These two models give an accurate representation of the work as a whole and in detail.

Motion Pictures of Naval Scenes.

A pleasing, instructive and spectacular exhibit of the Navy afloat and ashore is given in a series of about 60 biograph motion scenes of the life and duties of officers and crews of United States men-of-war, both in war and in peace, as well as stirring life-like scenes of maneuvers of vessels, torpedo attacks, manipulation and firing of great guns, landing parties, boat races, fire quarters, a naval recruiting office where recruits are given physical and mental examinations to test their fitness for the requirements of the naval service, recreations afloat, general muster, etc., etc. A dark room or enclosure, 60 by 24 feet, with a seating capacity of about 200, has been especially constructed on the Department's space for the purpose of exhibiting these scenes, in groups of ten or twelve, at stated hours each day during the Exposition. They are projected in motion form on a canvas 15 by 25 feet and form an exceedingly rare treat to visitors. It is indeed otherwise impossible, except to officers and enlisted men of the Navy under conditions of actual service, to have the opportunity here afforded of witnessing the life, duties and activity of the United States Navy at sea under conditions approximating actual warfare. There is nothing missing from these realistic scenes except the roar of the cannon and the cheers of the men. For visitors who cannot accommodate their time to the stated hours for the large biograph scenes, there is a continuous exhibition of the same pictures displayed in a mutoscope or biogen, in which instrument these motion pictures are shown as a succession of cabinet-size photographs mounted on a reel operated so as to pass before the eye at the rate of 15 to 30 a second. Among these scenes, doubly interesting, is one showing President Roosevelt, Secretary of the Navy Moody, Admiral of the Navy Dewey, Lieutenant General Chaffee, and Rear Admirals Taylor and Rodgers, departing from the Flagship Kearsarge after an official visit to Rear Admiral Barker, commanding the North Atlantic Squadron.



MODEL OF PORTION OF U. S. MAN-OF-WAR.

Models of Vessels of the United States Navy.

An exhibit to which visitors, particularly those residing at a distance from the coast, can devote much time with pleasure and instruction, is a series of models of vessels of the United States Navy embracing the various types of battleships, armored and protected cruisers, double-turreted monitors, gunboats, torpedo boats, submarine boats and old sloops-of-war. These models are exact reproductions of the vessels they represent, one forty-eighth of actual size, complete in every detail and bearing the critical inspection of experts. Practically all of the vessels which these models represent took part in the Spanish-American War. Many of them will prove doubly interesting to citizens of the various States and cities for which they are named. As a whole, the series shows by comparison the progress of the United States Navy for a century.

United States Marine Corps.

The main exhibit of the Marine Corps is a model camp on the Exposition grounds, elsewhere described. These marines are regularly detailed to do guard duty in the Government Buildings, and in their soldierly bearing they add much to the dignity of the national exhibits. In addition, the Marine Corps exhibits in the Government Building samples of uniforms, armor, accoutrements, etc., artistically arranged in large glass show-cases.

There are also shown the famous Whitehead torpedo, a set of the various signal flags of the United States Navy, ocean charts and many other exhibits of the Department, giving the visitors a general idea of the work being done by the Navy, and presenting a great store of information on the most important features of naval progress, past and present.

DEPARTMENT OF THE INTERIOR.

Edward M. Dawson, Representative.

A full description of the exhibit of this Department will be printed in the next issue of this GUIDE.

DEPARTMENT OF AGRICULTURE.

Joseph H. Brigham, Representative.

The Department of Agriculture presents exhibits from the following-named of its Bureaus: Weather Bureau, Bureau of Animal Industry, Bureau of Plant Industry, Bureau of Chemistry, Office of Experiment Stations, Division of Entomology, Bureau of Soils and Bureau of Forestry. Several important exhibits of the Department are located outside of the Government Building and are described elsewhere in this GUIDE. Those in the Government Building are as follows:

Weather Bureau.

This exhibit is comprised in three sections, as follows:

Section I. Instruments and Apparatus.

(*a*) A complete set of meteorological instruments is installed and connected with apparatus exposed on the roof of the Building so that continu-

ous records are made of all the important meteorological conditions, such as the direction and movement of the wind; the duration and time of sunshine; the amount of rainfall and the time and beginning and ending of rain; and the temperature and pressure of the air. Duplicate pieces of the apparatus on the roof are installed on the exhibit space, so as to show just how the mechanisms act in producing the automatic records.

Among the special instruments exhibited is a new form of pyrheliometer, that is, an apparatus for measuring the heat received from the sun; also forms of nephoscopes for observing and measuring cloud movements; a seismograph, which is an instrument for measuring and recording the minute motions of the earth during earthquakes. A record of an earthquake recorded by this instrument at Washington is also exhibited. The standard barometers, thermometers, model wind vanes, etc., are likewise shown.

(*b*) The apparatus employed by the Weather Bureau, in connection with the display of storm-warnings, is illustrated by models of storm-warning towers, lanterns, etc., together with some full-size apparatus employed in this connection.

(*c*) The aerial apparatus, used in obtaining records of the meteorological conditions at elevated points in the free air, are exhibited in the form of a kite, with meteorograph and accessories attached and a hand reel.

Section II. Forecast and Weather Map.

(*a*) The means and methods employed in making the daily forecasts of the Bureau are represented by specially prepared charts showing how the telegraphic data are received, charted and used in the preparation of weather maps; how forecasts are made up and disseminated. The daily weather conditions throughout the entire United States are shown on a large glass map which is changed each day to suit the conditions. A typical weather map, exhibiting the distinct characteristics of storms and their movements across the United States, is provided for gratuitous distribution.

(*b*) The forecasts of the weather conditions for St. Louis and vicinity are disseminated daily by means of a small card printed on the exhibit space on an automatic press provided for this purpose.

Section III. Climatic and Meteorological Maps, Photographs, etc.

A large collection of framed climatic and meteorological charts, showing the normal elements of the climate of the United States, as deduced from over thirty years' observations made by the Weather Bureau, are exhibited, accompanied by a miscellaneous collection of weather maps, photographs of clouds, lightning, fogs, snow crystals, etc., etc.

Bureau of Animal Industry.

The exhibit of this Bureau is designed to illustrate in a general way the character, variety and extent of its work, and to indicate what the Bureau does for the benefit of the farmer and stock raiser and for the consumer of animal products. The Bureau is principally engaged in the inspection of meat to prevent the shipment from one State to another or to foreign countries of that which is diseased or unwholesome; in the investigation of animal diseases; in the enforcement of measures for the prevention and eradication of contagious diseases of animals; in the inspection of animals for export and the supervision of their loading and of the vessels carrying them; in the inspection and quarantine of imported live stock; in the inspection of dairy products for export and of renovated butter factories, and the investigation of, and the dissemination of information concerning the methods employed in modern dairying to produce clean and wholesome milk.

The exhibit is enclosed within an ornamental structure which is not, however, intended merely for decorative purposes. The paintings, while adding to the attractiveness of the display, are of educational value, as they show portraits of selected types of various breeds of farm animals.

A large map of the United States shows the places where inspectors of the Bureau are stationed, and the kind of work carried on at each place is indicated.

The quarantine line bounding the district infected with Southern, Texas, or splenetic, fever of cattle is also shown on this map. Although the inspection of Southern cattle is one of the most important parts of the Bureau's work, an exhibit of it cannot well be made, as it consists chiefly in seeing that the regulations governing the transportation of cattle from the quarantined district are observed by the railroad companies. There is exhibited a calfskin to which are affixed wax models of the Southern cattle tick; this is to show the appearance of the ticks and the way in which they attach themselves to cattle, selecting the more tender and protected parts on the under surface of the body.

The meat-inspection work of the Bureau is illustrated by—

(*a*) Practical demonstration of the microscopic inspection of pork for trichinae. Assistant microscopists are engaged in the examination of samples of pork from one of the official abattoirs. A specimen of pork containing trichinae is under a microscope arranged for the inspection of visitors.

(*b*) Plaster life-size models of sides of a beef carcass to show how the meat is marked after having been inspected and passed as wholesome.

(*c*) Articles used in the inspection of meat and live animals, such as tags, brands, labels, seals, sealing presses, stamps, certificates, sample boxes, compressors, etc.

(*d*) Views contained in a panorama of moving pictures.

The inspection and tagging of cattle prior to exportation, the manner of loading animals upon the vessels, and the way in which vessels are fitted to secure the safe and comfortable transport of animals to foreign countries, are illustrated by—

(*a*) Model of part of stock yards, showing the inspection and tagging of cattle for export, as conducted by employees of the Bureau.

(*b*) Model of section of cattle-carrying steamer and pier and stock car. This shows how cattle are loaded from cars into the steamer and how they are stowed on board, and the character of the fittings required on vessels engaged in this trade.

(*c*) Views contained in the panorama of moving pictures.

Scab or scabies, is a disease which has caused great loss to the sheep-raising industry, but its ravages have been greatly checked by the work of the Bureau during the past few years. The same disease, also known as mange, has recently become prevalent among cattle in the western part of the country. A different variety of the same species of mite causes the disease in the different species of animals. The cause and the effects of the disease in sheep and the method of dipping to cure it are shown by—

(*a*) Two wax models, greatly enlarged, of the male and female parasite causing the disease of scabies in sheep.

(*b*) Two mounted sheep, showing the effects of scabies, one in the early stages of the disease, the other in a later stage.

(*c*) Model of sheep-dipping plant with swimming vat.

(*d*) Model of cattle-dipping vat. This may also be used for dipping cattle to kill the Texas (splenetic) fever ticks.

There is also exhibited a very complete collection of the horse's leg, foot and shoe—the anatomy of the leg and foot; samples of feet, illustrating various abnormal conditions affecting them; the results of improper shoeing; how to correct abnormalities by using proper methods of shoeing; various kinds of shoes and horse-shoeing tools.

In illustration of the work of the laboratories of the Bureau in the investigation of the causes and means of prevention of animal diseases are—

(*a*) Laboratory, fitted with necessary equipment for investigations in pathology, bacteriology and zoology.

(*b*) Plaster and wax models of diseased animal tissues, showing the lesions found in various diseases.

(*c*) Specimens of tissues and organs in preserving fluid, showing the lesions of different diseases affecting animals.

(*d*) Cultures of pathogenic bacteria.

(*e*) Products of bacteria, toxins, antitoxins, mallein, and tuberculin.

(*f*) Specimens of animal parasites, preserved in alcohol.

(*g*) Case of sixty transparent photographs, showing tissues and organs affected with various diseases, magnifications of slide preparations of pathogenic micro-organisms, and enlarged views of animal parasites.

(*h*) Model of chute used for vaccinating calves against blackleg, and also for dehorning them. Blackleg virus and vaccine.

The work of the dairy division of the Bureau for improvement in dairy methods and products is illustrated by—

(*a*) Clean milk exhibit—including every utensil needed for use in handling milk in a ten-cow dairy, where it is purposed to produce sanitary milk.

(*b*) Miniature model of a 20-cow dairy, showing the requirements of a sanitary stable, light, ventilation and proper construction. Also model stalls, ties, watering devices and feeding arrangements.

(*c*) Exhibit of materials and records—showing methods of inspection of renovated butter factories and their products in interstate commerce, and inspection of dairy products for export.

(*d*) Condensed milk exhibit—showing the extent of the condensed milk industry, including three cans of every brand made in the United States. Also photographs and charts illustrative of the business.

(*e*) Composition of milk and its products with specimen jars illustrating the proportion of the different parts: One gallon of milk and its component parts; one gallon of cream and its component parts; one gallon of condensed milk and its component parts; one tub of butter (10 pounds) and its component parts; one cheese (10 pounds) and its component parts.

(*f*) Appliances used in different parts of the world in connection with the milk business, including different styles of cans, glass jars and other dairy utensils used in American and foreign cities. Also curiosities from Switzerland, Belgium, Holland and other old dairy countries.

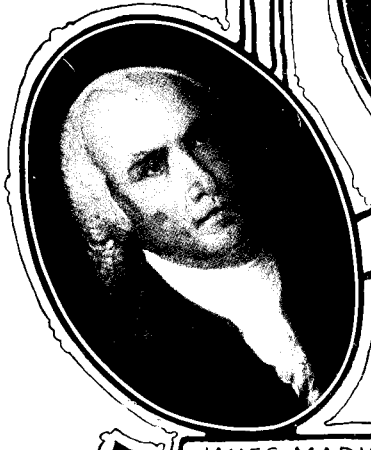
(*g*) Collection of 34 models illustrating forms of cheese.

(*h*) Old dairy patents showing mechanical construction of various machines and curiosities; a collection of commercial packages for milk, butter and cheese, in use in the United States and foreign countries.

TAE PRESIDENTS

THOMAS JEFFERSON
1801 3D PRESIDENT 1809

MILLARD FILLMORE
1850 13TH PRESIDENT 1853

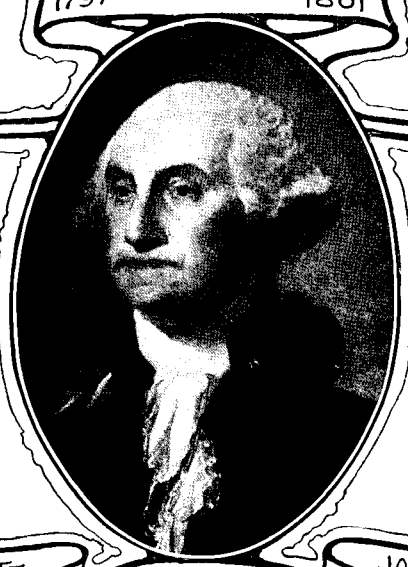


JAMES MADISON
1809 4TH PRESIDENT 1817

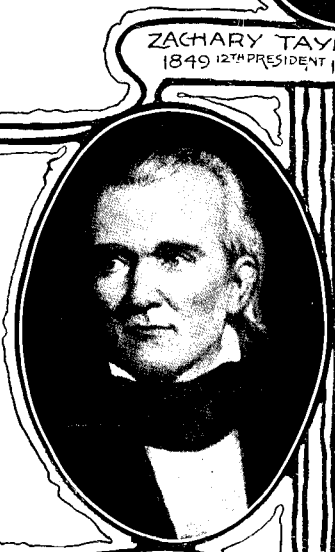
JOHN ADAMS
1797 2D PRESIDENT 1801

ZACHARY TAYLOR
1849 12TH PRESIDENT 1850

JAMES MONROE
1817 5TH PRESIDENT 1825



GEORGE WASHINGTON
1789 1ST PRESIDENT 1797

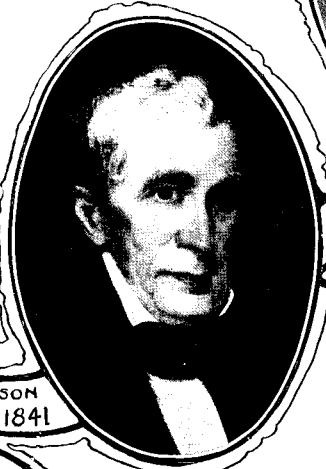


JAMES K. POLK
1845 11TH PRESIDENT 1849

JOHN Q. ADAMS
1825 6TH PRESIDENT 1829

ANDREW JACKSON
1829 7TH PRESIDENT 1837

MARTIN VAN BUREN
1837 8TH PRESIDENT 1841



WILLIAM H. HARRISON
1841 9TH PRESIDENT 1841

JOHN TYLER
1841 10TH PRESIDENT 1845

THE PRESIDENTS

FRANKLIN PIERCE
1853 14TH PRESIDENT 1857

JAMES BUCHANAN.
1857 15TH PRESIDENT 1861

GROVER CLEVELAND
22ND & 24TH PRESIDENT
1885-1889 1893-1897

BENJAMIN HARRISON
1889 23RD PRESIDENT 1893

ABRAHAM LINCOLN
1861 16TH PRESIDENT 1865

THEODORE ROOSEVELT
26TH PRESIDENT

WILLIAM MCKINLEY
1897 25TH PRESIDENT 1901

ANDREW JOHNSON
1865 17TH PRESIDENT 1869

RUTHERFORD B. HAYES
1877 19TH PRESIDENT 1881

CHESTER A. ARTHUR
1881 21ST PRESIDENT 1885

ULYSSES S. GRANT
1869 18TH PRESIDENT 1877

JAMES A. GARFIELD
20TH PRESIDENT
1881 1881

(*i*) Charts and maps showing the extent of the dairy industry, according to the latest statistics.

A large picture of the animal quarantine station for the port of New York, situated at Athenia, N. J., where most of the animals imported from Europe are held in quarantine, gives a good idea of the arrangement of the station, with its numerous new brick stables, each one of which is isolated from the others.

One of the interesting features of the exhibit is the panorama of moving pictures, which depict in an excellent way some of the work of the Bureau in the inspection of meat and of animals for export, and the fittings of the steamers; there are also some scenes in a modern dairy stable.

Bureau of Plant Industry.

This Bureau not only has extensive exhibits in the Government Building, but in addition has an important out-door exhibit on the Exposition grounds, which is elsewhere described in this GUIDE. The following refers to the Bureau's exhibits in the Government Building.

VEGETABLE PATHOLOGICAL AND PHYSIOLOGICAL INVESTIGATIONS.

The portion of the exhibit devoted to vegetable pathology and physiology consists, first, of a small working laboratory. This laboratory, in which diseased plants are shown in their fresh condition from day to day, has a complete equipment of culture materials, sterilizers, culture apparatus, microscopes, etc., and a representative of the Department is present daily to show the manner in which fungus diseases are studied and to explain the different structures and forms of diseases, as well as methods of combating them. On the walls surrounding this laboratory are charts, photographs, and colored illustrations of various diseases and the methods of their treatment.

In connection with this laboratory there are six cases containing special exhibits. One is devoted to the principal maladies of cultivated crops, showing preserved specimens of various diseases, such as bitter-rot of apples, smuts, rusts and leaf diseases. In each instance a brief description of the particular disease accompanies the specimen, and recommendations as to how such disease may best be combated are given in most instances. Growing cultures of various fungi are also shown.

Another case is devoted to the diseases and decays of timber, showing especially the diseases that attack standing timber in the forest and those that cause the decay of construction timbers of various kinds.

A third case is devoted to an exhibit of sugar beets. The various stages in the development of the sugar beet from the seed to the mature beet are shown; also the various steps in the preparation of the products and by-products of the sugar beet. Over 200 samples of seed, including American and foreign-grown seeds, are exhibited for comparison. Among these is one bottle containing 10,000 single-germ seed balls and another bottle of the same size containing 1600 multiple-germ seed balls.

A fourth case illustrates the relation of bacteria to the fixation of nitrogen. In the lower part of the case, on one side, is shown the method of isolating the bacteria from nodules on leguminous plants and making poured plates; transferring the organisms to nitrogen-free silica jelly and to nitrogen-free liquid media; saturating sterilized cotton with this culture; drying and packing the cotton; together with packages of nutrient salts for making up fresh culture liquid, and wrapping the packages ready to mail to the applicant—thus illustrating the preparation and distribution of these organisms in general agriculture. On the opposite side of the case is illustrated the process of preparing the culture, the inoculation and drying of the seed, and all steps necessary previous to sowing or storing the seed. Herbarium specimens of some of the various leguminous crops are exhibited, with special comparison of inoculated and uninoculated plants, to demonstrate the benefit of nodule-forming bacteria. Some photographs are also included in this exhibit.

A fifth case is devoted to a mushroom exhibit, showing all stages of mushroom growth, as well as various types of mushroom beds, the methods of making pure culture spawn and its use, and various products, with photographs illustrating the industry.

A sixth case relates to the work that has been accomplished in the improvement of plants by breeding. Various improved types of cotton are exhibited by means of photographs and specimens illustrating the processes used in producing hybrids and new fixed types, and in the selection and improvement of imported types, such as Egyptian cottons. Here is also illustrated the advance that has been made in the production of hardy oranges by crossing the hardy Trifoliate orange with the tender and edible sweet orange, and in the production of improved and earlier varieties of the "kid glove" or Tangerine orange, as well as other new and improved types. The improvements secured in pineapples are illustrated by a series of photographs showing types of new varieties. The methods of improving corn are illustrated by sample ears and photographs. The peculiar phenomenon known as "xenia," or the immediate effect of pollen, is demonstrated conclusively by the specimens exhibited.

BOTANICAL INVESTIGATIONS AND EXPERIMENTS.

This exhibit consists of a seed laboratory, designed to show the methods used and to illustrate the practical results which follow seed testing.

It is divided into three parts:

1.—Apparatus used in making tests of seeds for mechanical purity and germination.

2.—Weed seeds most frequently found in commercial seeds, shown in bulk and under magnifying glasses, supplemented by growing plants.

3.—Different grades of commercial grass and clover seeds, shown in bulk and under magnifying glasses, accompanied by the results of tests for purity and germination. The price paid for the seed is shown, as well as the cost of the pure seed that will grow. The conclusion drawn from an examination of this material is that the pure seed that will grow costs much less when high-grade seed than when low-grade seed is used.

FIBER PLANT INVESTIGATIONS.

The exhibit of plant fibers in the Government Building is located in the central portion of the space of the Bureau of Plant Industry. The general purpose of this exhibit is to illustrate the commercial view of the plant fibers as they pass from the producer to the manufacturer, or as they leave the hands of the farmer. The exhibit is outlined by commercial bales of the principal plant fibers used in the manufacture of rope, cordage, twine, thread and cloth. These bales show the form in which the various kinds of plant fiber are handled in the market. Accompanying each kind of fiber is a growing plant, illustrating the source, labelled plainly as to the regions where the fibers are produced, the portions of the plant from which they are obtained, and the manner in which they are prepared.

In the interior of the space outlined by the bales are two upright glass cases, one containing samples of typical forms of the cottons, such as American Upland, Sea Island, Egyptian and India cottons, and the soft or bast fibers—flax, hemp, jute and ramie. The other case contains samples of the hard fibers—manila, sisal, New Zealand, Mauritius and istle—used chiefly in the manufacture of binder twine, cordage and ropes. Most of the samples are accompanied by representative articles manufactured from the fiber. No attempt has been made, however, to illustrate processes of manufacture, or to show many forms of the articles made from plant fibers.

DRUG AND MEDICINAL PLANT INVESTIGATIONS.

This exhibit consists in the main of crude drugs, some of which are shown in large quantities in bags and others in small quantities in glass containers. Twelve specimens in larger quantities represent drugs either at present grown in this country or considered well adapted for growth in the United States or its dependencies. A growing plant in a tub accompanies each of these bags and shows the appearance of the living drug plant.

The cases occupying the center of the exhibit include about one hundred samples of commercial drugs, all of which are produced in the United States, most of them being obtained from wild plants. In a few instances the cultivated articles of the same sort are shown beside the articles gathered in a wild state.

POISONOUS PLANT INVESTIGATIONS.

The poisonous plant exhibit consists of two parts:

First, water-color illustrations of over fifty poisonous plants, in two groups, one representing those chiefly poisonous to man and the other those poisonous to stock. In some cases, especially in the former class, plants which are sought, and for which poisonous plants are sometimes mistaken, have also been exhibited, the grouping bringing together for comparison the species confused.

The second part of the exhibit is shown in a case, on one side of which are apparatus made use of in connection with poisonous plant investigations, materials used as antidotes, and instruments employed in administering antidotes, among which are included instruments used in autopsies and in the laboratory. On the other side of the case, small quantities of active principles isolated from American poisonous plants, and dried material of a number of species are shown. Potted specimens of a number of the most important poisonous plants are also exhibited.

SEED AND PLANT INTRODUCTION AND DISTRIBUTION.

This exhibit consists of specimens, photographs, models and plants of some of the foreign plant cultures which have either been successfully introduced into America and have now become a part of the agriculture of the country, or of such industries as, from the preliminary work already done upon them, are deemed worthy of the serious attention of American agriculturists.

Many of the articles exhibited have been secured in foreign countries by the agricultural explorers of the Department, and by careful study these have been fitted into existing American conditions. The wide range of fruits, vegetables and grains exhibited illustrates the possible benefit to the country of this branch of the Department's work. The exhibits include better rice varieties from Japan, macaroni wheats and other grains from Russia and the north coast of Africa, fodder crops from Egypt and Algiers, bamboos and paper plants from Japan, tobacco from Sumatra, the date palm from the Sahara, the pistache nut from the Levant, the mango from the Oriental Tropics, figs from Smyrna,

a new Japanese salad plant, hard-shelled almonds from Spain, a superlative variety of horse-radish from Moravia, brewing barley from Austro-Hungary, and the long-staple, silky cotton from Egypt.

CEREAL INVESTIGATIONS.

This exhibit consists of a number of cereal specimens in different stages, showing the most important varieties that have so far been obtained, consisting of several varieties of durum (macaroni) wheat, Japanese rice, Swedish select oat, emmer, three important varieties of Russian proso (broomcorn millet), and several other varieties of oats, barley and buckwheat.

Much of the space is given to durum wheat because of its relative importance, and this exhibit includes a number of important products that can be made from that grain, illustrating its commercial value.

Unthrashed samples of the different varieties and bromide pictures illustrate many features in the grain industry, particularly the appearance of the various grains in cultivation.

GRASS AND FORAGE PLANT INVESTIGATIONS.

This exhibit is composed chiefly of the following groups of material:

Models of Haying Machinery.—Models of hay balers, stackers, rakes and other types of machinery used in haying operations; photographs of machinery; samples of smaller articles.

Baled Hay.—Samples of ordinary hay of a few standard varieties; double-compressed bales used for export.

Mower Parts.—The pitman attachments of several makes of mowing machines, showing the connection with the crank-wheel and sickle.

Model of Sand Dune.—A miniature sand dune, illustrating methods used to control drifting sand, such as plantations of beach grass, covering with sand hedges, and the use of various types of sand hedges to divert the sand.

Seed of Forage Plants.—Seeds of about forty of the leading forage crops are displayed in half-gallon glass vials, while many distinct varieties of cowpeas, soy beans, sorghums and millets are shown.

Publications.—Title-pages and sample illustrations and texts from the more important circulars and bulletins on forage crops, meadows, pastures, range problems, silos, lawns and the reclamation of sand dune areas are exhibited.

Living Plants.—Small trays contain living turf of the best lawn grasses and growing specimens of the most important forage plants.

Silo Construction.—The central pavilion in this exhibit is a cylinder thirteen feet in diameter and twelve feet high. The interior is reached through four doorways, in the sides or jamb of which are built cross sections showing actual silo construction. Four types of silos are thus illustrated; namely, a stave silo, two kinds of round wood silo, and a round brick silo.

Grasses and Forage Plants.—The walls of the central pavilion or "silo" are decorated with sheaves of native and cultivated grasses, alfalfa, and other forage plants, and with mounts showing the root systems of grasses. In the walls are set a series of transparencies showing forage crops, range scenes and related subjects.

POMOLOGICAL INVESTIGATIONS.

This exhibit illustrates the following distinct features:

A.—Models Illustrating Fruit Varieties.

1.—A collection of fac-simile models of the leading commercial varieties of apples grown in the Mississippi Valley and Upper Lake regions. This collection, which occupies two case fronts, includes only such varieties as have demonstrated their adaptability to commercial culture in various sections of the region between the Great Lakes and the Gulf. In some instances several models of a single variety are shown to illustrate the variations which occur when it is grown under different soil and climatic conditions within the region in question. Most of the varieties shown in this collection are of American origin, and as the region specified has a wide range of soil and climatic conditions, the collection comprises a large proportion of the important commercial apples of North America.

2.—A collection of new or little known varieties of apples that are considered worthy of testing in the Mississippi Valley and Upper Lake regions, either for commercial or amateur planting. This occupies one case front and comprises most of the promising sorts that have been introduced since the World's Columbian Exposition in 1893, together with certain somewhat older sorts the culture of which has heretofore been confined to the localities of their origin, but which are considered worthy of wider planting.

Practically all the varieties in this collection are of American origin.

3.—A general collection of models illustrating important old and new varieties of fruits grown in various portions of the United States. This collection, which occupies fifteen case fronts, comprises collections of apples, crab apples, pears, quinces, peaches, plums, apricots, nectarines, cherries, cranberries, strawberries, oranges, lemons, pomelos, limes, citrons, kaki, loquats, avocados, mangoes, sapodillos, persimmons and miscellaneous subtropical fruits.

B.—Models Illustrating Investigations in Fruit Marketing and Storage.

4.—An illustration, occupying one case, of the standard commercial grades of some of the leading varieties of winter apples, as adopted by the International Apple Shippers' Association. The "No. 1" and "No. 2" grades are illustrated by fac-simile models packed in sections of standard apple barrels. The smallest apples in each package represent the minimum size of fruit of the variety permitted in that particular grade. The specifications regarding the standard grades and standard apple barrels are shown on large labels in the case.

5.—Eastern-grown summer apples, pears and peaches packed for export. Two cases containing fruit shipments of the Department of Agriculture. These shipments are made by the Department in co-operation with fruit growers in different parts of the country in the interest of the development of the fruit export trade. Labels give details regarding the shipments, packages and methods of packing recommended, prices realized, etc.

6.—Fac-simile models of apples and pears showing the influence of the environment of the fruit during growth and of various commercial methods of handling and storing on its ultimate keeping quality in cold storage.

One case contains fac-simile models displayed in storage packages showing the influence of the maturity of Rhode Island *Greening*, Winesap, York Imperial and Baldwin apples on the development of scald while in cold storage.

One case contains fac-simile models displayed in storage packages showing the influence of the age of the trees of Tompkins King and York Imperial apples, and the influence of sandy and clay soils on the keeping quality of Rhode Island *Greening* and Baldwin apples while in cold storage.

One case contains fac-simile models displayed in storage packages showing the influence of immediate and delayed storing after the fruit is picked on Sutton and Rhode Island *Greening* apples and on Bartlett and Kieffer pears.

One case contains fac-simile models displayed in storage packages showing the influence of the type of package on the keeping quality of Bartlett pears in cold storage, and the influence of different temperatures in a warehouse, and of fruit wrappers on the keeping quality of Bartlett and Kieffer pears.

The details concerning each lot of fruit will be found on the labels in the cases.

C.—Named and Introduced Varieties of Pecans.

7.—A collection of ten standard named varieties of pecans displayed in glass jars. This collection comprises those sorts which have been disseminated in the form of scions or budded or grafted trees for a sufficient length of time to entitle them to the designation "standard varieties." In several instances more than a single sample is shown, thus illustrating the variations due to differences in soil and climatic conditions.

8.—A collection comprising the most promising recently introduced varieties of the pecan. Most of these specimens are from the original trees of their respective varieties, and may, therefore, be considered as fairly typical of the varieties where they originated. Their climatic range of adaptability still remains to be determined.

Bureau of Chemistry.

The exhibit of this Bureau consists almost entirely of a working laboratory equipped with apparatus of sufficient variety for conducting all ordinary analytical work, and so selected and arranged as to illustrate as well as practicable the field covered by the Bureau and the manner of conducting its work.

It may be considered under three heads: First, the general exhibit illustrating the miscellaneous chemical work of the Bureau, and as far as possible the chemicals and apparatus employed by the Food Laboratory, Sugar Laboratory, Insecticide and Agricultural Water Laboratory, Dairy Laboratory, Soil Analysis Laboratory, Drug Laboratory, and the Contract Laboratory; second, the exhibit of the Road Material Laboratory, including the apparatus employed by that laboratory for the ordinary determinations made in the examination of materials employed in the construction of roads; third, the exhibit of the Microscopist of the Bureau.

GENERAL EXHIBIT.

The general exhibit of the Bureau includes laboratory tables provided with water, gas, vacuum and blast, and equipped for miscellaneous analytical work. Special apparatus is also exhibited for the determination of fat, nitrogen, water, alcohol, volatile acids, sugar and other optically rotating bodies, and for special determinations in the examination of agricultural products such as grading the color of wines, tannin extracts, and other colored liquids, and determining the specific gravity, viscosity, index of refraction, and other physical and chemical properties.

This exhibit is accompanied by chemists engaged in their ordinary routine work, and ready to answer questions and give information regarding their work, and the general scope of the Bureau. The methods of making the routine calculations of the Bureau, and of filing, tabulating, arranging, and preserving results are illustrated by calculators actually at work at the data obtained during the previous winter.

A case of samples illustrating the work of different laboratories of the Bureau is included in the exhibit.

ROAD MATERIAL LABORATORY.

This exhibit includes apparatus employed for the examination of road materials. Special types of apparatus shown are the abrasion machine, cord drill, rock saws, impact machines, ball mill and briquette machine. The exhibit of the Road Material Laboratory also includes a model of several types of rural highways.

This exhibit is attended by a petrographer and chemist from the regular force of the Road Material Laboratory who are engaged in the ordinary routine work of the laboratory, and ready to answer questions and explain to visitors the apparatus exhibited.

EXHIBIT OF THE MICROSCOPIST.

This exhibit includes microscopes adapted to working laboratories, microscopical apparatus such as microtomes, embedding ovens, photomicrographic and projection apparatus, and exhibition microscopes showing samples of various substances examined in the Bureau together with adulterants commonly used. Two features of this exhibit worthy of especial mention are: First, the photomicrographic apparatus arranged for practical work in photographing sections, and also for reproducing on a screen, in the presence of the public, lantern slides and microscopic sections; and second, six exhibition microscopes each provided with a glass plate capable of carrying twenty microscopic mounts so arranged that the observer by rotating a button can bring into the field any section he may desire to examine.

The exhibit is attended by the Microscopist of the Bureau, who is engaged in the ordinary routine work of the Bureau, and at the same time illustrating and explaining it to the public.

Office of Experiment Stations.

This exhibit is designed to show the organization and work of the Office, including its relations with the Department of Agriculture and with the agricultural colleges and experiment stations organized in the several States and Territories under the acts of Congress of July 2, 1862; March 2, 1887, and August 30, 1890, and the special investigations in charge of this Office. The exhibit consists of materials, apparatus, publications, charts, photographs, maps, etc. A more complete exhibit of the agricultural colleges and experiment stations, made by the Association of American Agricultural Colleges and Experiment Stations under direction of the Government Board for the Louisiana Purchase Exposition is located in the Palace of Education, and is described elsewhere in this GUIDE.

A large wall map is shown indicating the location of the sixty State and Territorial Experiment Stations, the national expenditures of which are supervised by this Office. The total income of these institutions is about $1,400,000, of which the national government contributed $765,000 during 1903. A set of the bulletins and reports of these stations amounting to about 650 volumes is shown. These publications cover almost every phase of agricultural investigation and demonstration and are gratuitously distributed by the different stations, the regular address list of the stations containing more than a half-million names.

The publications of the office are also shown. These consist of the Experiment Station Record, miscellaneous bulletins, card index, etc. The Experiment Station Record is a monthly journal in which the literature of agricultural science of many countries is reviewed. Fourteen volumes of this publication are exhibited, and the abstracts contained in them represent over 750,000 pages of original matter, or as is shown in the comparative exhibit, the fourteen volumes contain the substance of articles which, if brought together in publications of uniform size, would require 620 volumes of 1200 pages each to contain them. The card index of the experiment station literature shown in the case includes 24,000 cards and gives reference to and brief abstracts of articles in the experiment station publications from 1888 to 1903. The title pages of the 115 publications issued by the Office Experiment Stations during 1903 are shown.

Portraits are shown of the late Senator Justin M. Morrill, of Vermont, through whose efforts the establishment and endowment of the agricultural colleges were secured and of the late Honorable William H. Hatch, of Missouri, who was largely instrumental in securing the national legislation providing for the establishment of agricultural experiment stations throughout the United States.

This Office manages experiment stations in Alaska, Hawaii and Porto Rico, and products are shown from each of these countries. These include samples of horticultural and agricultural products from the tropics and from high latitudes in Alaska, cereals and vegetables being shown from stations situated at 63° and 65° 30′ North latitude. Quite a range of tropical fruits is shown, and the possibility of growing cereals in Alaska is demonstrated by abundant specimens.

The agricultural experiment stations, with few exceptions, are departments of the agricultural colleges, and these colleges are also required by law to report to the Secretary of Agriculture concerning their finances, equipment, courses of instruction, faculties, students, etc. The Office has therefore been charged with the duty of collating and publishing information regarding the agricultural colleges and promoting agricultural education throughout the United States. An outline of the American system of agricultural education is shown in a set of charts and photographs, and in a similar way the system of agricultural research is illustrated.

Recently the Office has undertaken to aid the Farmers' Institutes which are now regularly held throughout the United States and are annually attended by about one million farmers. The institutes are under State or local control, and this Office works in co-operation with the organizations already effected in the several States. A special feature of this work at present relates to the development of a corps of institute lecturers who shall combine with practical knowledge of farming up-to-date acquaintance with the results of agricultural research at home and abroad. An exhibit is made of a number of charts relating to Farmers' Institutes.

The Office is charged with special investigations on the nutrition of man, and dietary studies and digestion and metabolism experiments have been carried on for ten years in co-operation with a number of the agricultural colleges and experiment stations. The results of some of these investigations are shown in sample dietaries in which the percentage composition is indicated, special studies on flour and bread are exhibited and investigations on the losses due to the cooking of meat, etc. The Atwater-Benedict respiration calorimeter devised by agents of this Office and used in exact studies of the nutritive value of food is shown by model, and a bomb calorimeter with accessory apparatus as improved by Atwater and used in comparing the fuel value of the various foods is displayed.

An exhibit is made in two cases showing the special investigations of this Office on irrigation and drainage. These investigations have included studies on the water requirements of different crops and soils in arid and humid regions, methods of application of water, studies of drainage systems, etc., and investigations regarding the laws and institutions best adapted to irrigated regions. The various instruments shown are of types in actual use in these investigations, some of them having been devised by agents of this Office, and in one of the cases these are shown under actual working conditions.

Division of Entomology.

In planning the exhibit of the Division of Entomology the main purpose has been to illustrate the purely economic side of insect life.

It is conservatively established that insect pests in this country destroy farm products to the value of three hundred million dollars annually, a damage which would be easily augmented one-half by the neglect of proper methods of control or similarly reduced by the more general adoption of such methods.

The principal object kept in mind, therefore, has been to make the exhibit of the Division serve as a means of information about these injurious insects, how they look, how they affect the various crops, and how their damage may be limited.

The exhibit consists of displays of the more injurious insect pests of the country. These illustrate all the stages of the common insect enemies in agriculture and horticulture. While the farmer or fruit-grower generally is familiar with the appearance of the principal injurious insects which affect his crop, in the particular stage in which their most serious depredations are committed, yet comparatively few recognize these same insects in any of the other different stages through which they pass in the course of their lives, a knowledge of which is very important from an economic point of view, and particularly in the matter of intelligent application of the remedies.

This main part of the exhibit is subdivided according to the crops which these insects injure. One group relates to *Fruit Tree Insects*, with several subdivisions illustrating the special enemies of pear, plum, citrus fruits, etc. Another group is of *Field Crop Insects*, comprising insects peculiar to corn, wheat, rye, cotton, tobacco, sugar-cane, etc. Another group covers insects injurious to *small fruits and truck crops;* still another, those destructive to our *forest trees;* one illustrates insects affecting *stored products*, as grains, food substances, hides, etc.; another, those which affect *live stock;* while one group is devoted to *household insect* pests of all kinds. While these displays are of considerable scientific interest, the purely technical features have been strictly subordinated to the practical purpose of popular instruction.

To further aid in this, enlarged models of injurious insects and their work are exhibited alongside the insects themselves.

Besides the insects thus directly affecting the crops of this country, another group of insects has of late years been recognized as being fully as dangerous to the welfare of man, namely, those which act as carriers of diseases of man and animals. The enormous importance of mosquitoes in relation to malaria and yellow fever, and of flies to typhoid, has only of late been demonstrated, and the general public is as yet not fully aware of it. A special exhibit of these insects will therefore be made, and popular attention will thus be drawn towards this important phase of the entomological work of the Department.

Another special feature will be the exhibition of living insects in glass cages on their natural food plants, feeding and undergoing their transformations. In this, the economically important insects will have predominance It is intended to have live growing cotton plants, supporting the injurious insects peculiar to these plants; likewise fruit trees, such vegetables as tomato, cabbage and parsley, each with its particular insect enemies feeding and developing on it. In this group there will also be seen living predaceous insects, as predaceous bugs and preying mantis, which are beneficial to man because they devour harmful insects. Of the insects more directly beneficial to man will be shown the silkworm, which by a system of artificial retardation of the eggs, will be kept living, feeding, and spinning throughout the season.

There will also be found for distribution to those interested a complete catalogue of the insect exhibit, which will give references to the best and most accessible articles on each insect.

Bureau of Soils.

The exhibit of this Bureau illustrates the three main branches of the Bureau's work: the soil survey, tobacco investigations and alkali land reclamation.

THE SOIL SURVEY.

Soil maps of the areas surveyed to December 31, 1902, eighty-nine in all, are displayed on the wall and in swinging frames. These maps show in colors the areas of the different soils of each district surveyed, and on each map is pasted a legend giving the relative agricultural value of the soils of the area. Maps of the areas surveyed since 1902 could not be shown on account of delay in publishing them.

Next to the soil maps are shown samples of a few special soils of the United States. These soils were selected for the most part on account of some special crop value. Thus the Connecticut soil (Hartford sandy loam) on which is grown the Sumatra wrapper tobacco; the Texas soils (Orangeburg sandy loam and Orangeburg clay) on which experimental crops of Cuban filler tobacco are being grown; the principal truck soil (Norfolk sand) of the Atlantic Coast States; the most important truck and fruit soil (Fresno sand) of the Pacific Coast States; the celebrated Albemarle Pippin land (Porters black loam); and a number of other soils of particular agricultural value are shown.

A stand containing 192 large photographs is placed next to the soil samples. These photographs, which were taken in all parts of the United States and in Porto Rico, illustrate the soils and agricultural conditions in areas surveyed by the Bureau.

Across from the photograph stand is a relief map of St. Mary County, Maryland, showing the different soils in colors. This is a tidewater area and is chiefly remarkable, from the point of view of the soil investigator, for the closeness with which the soils follow the contour lines.

Adjoining the St. Mary County model is a relief map of the Albemarle area, Va. This shows a section of the Blue Ridge Mountains and of the famous Shenandoah Valley, the richest agricultural region in Virginia. The foothill soils of this region are celebrated for their fine fruits, especially the Albemarle Pippin. The steep mountain slopes of this area, cut by ages of erosion, are in marked contrast to the low, flat plains of the tide-water area shown in the St. Mary County model, which have been built up by deposition of alluvial material within comparatively recent times.

ALKALI LAND RECLAMATION.

Next to the relief map of the Albemarle area is shown a model illustrating the reclamation of alkali land by underdrainage and flooding. At the right-hand end of the model is seen a tract of land heavily impregnated with alkali salts, on which a few sage bushes and salt weeds are growing.. No steps have been taken to reclaim this tract. In the center of the model is a tract of land in process of reclamation. This has been underdrained with tile, plowed and leveled and then divided into sections by embankments of earth. Each of these sections, called "check," is flooded to a depth of at least four inches for as long a time as water can be secured. This water sinks down through the soil and carries the dissolved salts out through the drains. The left-hand end of the model shows a tract which has been reclaimed and on which a crop is being grown under irrigation.

TOBACCO INVESTIGATIONS.

Next in the line of models is one illustrating the method of growing Sumatra wrapper tobacco under shade. This consists of a tent under which the tobacco plants are growing, a portion of the tent being torn off to show the plants and the manner of constructing the framework. These tents are 9 feet high in the field, and the plants grow clear to the top. At one end of the model is shown a typical tobacco barn of the Connecticut Valley. A wagon load of tobacco is being hauled from the tent to the curing shed.

In a large double case at the end of the Bureau's exhibit space are a number of samples of Sumatra wrapper and Cuban filler tobaccos. The different sizes and grades of each are shown, together with samples of the tent cloth under which the Sumatra wrappers are grown and cigars wrapped with the different grades of Sumatra tobacco.

Bureau of Forestry.

The exhibit of this Bureau is located in the Forestry, Fish and Game Building, and is described elsewhere in this GUIDE.

DEPARTMENT OF COMMERCE AND LABOR.

Carroll D. Wright, Representative.

The exhibit of this Department does not by any means cover all of the various bureaus now falling within its jurisdiction, but has necessarily been confined to those bureaus which were transferred to the new Department on July 1, 1903, from the Treasury and Interior Departments, and for which those Departments had made financial provision for the preparation of exhibits. The offices thus included are the Coast and Geodetic Survey, the Bureau of Standards, the Bureau of the Census, and the Light-House Board. Two additional bureaus of the Department of Commerce and Labor, for which separate provision was made by law before the creation of the new Department, have prepared exhibits. That of the Bureau of Fisheries is installed in a building constructed for the special purpose of the fisheries exhibit, adjacent to and connected with the main Government Building, while that of the Bureau of Labor is installed on the exhibit space of the Department of Commerce and Labor. Separate accounts of these two exhibits are given elsewhere by their respective Representatives on the Government Board. Following will be found accounts of the exhibits of the other four bureaus of the Department from which exhibits are made:

Coast and Geodetic Survey.

It is of the first importance to all maritime nations to have reliable charts of their coasts for the benefit of commerce, navigation, and military defense.

The Coast and Geodetic Survey is organized to make the necessary surveys and publish charts of the coasts of the United States and those under its jurisdiction. It is also charged with work in the interior for furnishing geographical positions as a basis for State surveys.

Surveys over such an extended area of the earth's surface and of a high standard of accuracy require a number of distinct operations, such as astronomical observations, base measurement, triangulation, hydrography, topography, magnetics, etc. The character and extent of these operations are described in a dozen leaflets printed for free distribution to Exposition visitors, each leaflet treating of a particular branch of the work.

Portions of the work are illustrated by the exhibits. Thus the actual printing of the charts on a large copper plate press will give some idea of the care exercised to place before the navigator in the most reliable form the information on which the safety of his ship largely depends. The tidal model which is supplied with suitable mechanism to simulate in miniature the rise and fall of the tides, shows how they are automatically recorded and serves to demonstrate the importance of this branch and the necessity for the publications which give the high and low waters for all principal ports throughout the world.

The various instruments used for the different kinds of work of the Survey both on land and sea will be found appropriately grouped. Some of them are for measuring great distances on land and some for measuring great ocean depths. Others are for measuring minute quantities like changes in the earth's attraction on the compass needle, or the relative difference in the attraction of gravity at different points on the earth.

In the astronomical group are the instruments for the determination of longitudes by telegraph. With similar ones the longitudes of all the important cities throughout the United States, and many localities in the Philippine Islands, have been obtained, making use of the submarine cables in the Atlantic and Pacific oceans as well as the telegraph lines on land. With this group is also shown the latest form of half-second pendulum apparatus for gravity determinations.

The apparatus for actual measure of distances on the ground, called "Base Apparatus," are grouped together. They are designed to measure lines of several miles in length within a limit of error of a millionth part.

Longer distances are determined by the trigonometric method. The measure of horizontal angles being the chief feature of this method, instruments for this class of work are exhibited, and are similar to those used in the triangulation systems along the coasts, on which the charts are based, and the systems extending across the continent and along the 98th meridian.

In the hydrographic group are various types of instruments and apparatus used in obtaining the information which appears on the water areas of the chart. It includes apparatus for sounding in all depths of water, from the shallows along the immediate coast line to the greatest depressions of the ocean bed. It also includes the instruments for locating and plotting the positions of the surveying boat or vessel while engaged in the work of sounding.

The magnetic group, besides the latest type of instruments for ascertaining the amount of the variation and dip of the compass needle at given localities, contains exhibits of particular historic

"LEST WE FORGET"

McKinley Souvenir Encomiums

FROM THE HALLS OF CONGRESS

United States Senate,
Washington

December 10, 1903.

My dear sir:

I wish to introduce to you the bearer of this note Miss Elsie Teepell, a young lady from my home city, Cleveland, Ohio. She wishes to confer with you on a matter which I am sure will be of interest to you, and I would be pleased if you could give her a hearing.

Truly yours,

M A Hanna

Honorable David R. Francis,
St. Louis, Mo.

Speaker's Room,
House of Representatives,
Washington, D. C.

April 22, 1904.

Dear Miss Teepell:

I have examined the model of the Souvenir Guide U. S. Government Buildings, Louisiana Purchase Exposition, which you designed, and think your ideas are excellent. In my judgment, your suggestions are most appropriate

With respect, etc.

Yours truly.

J G Cannon

United States Senate,
Washington, D. C.

January 23, 1904.

Miss Elsie Teepell,
Cleveland, Ohio.

My dear Miss Teepell -

I think your suggestions regarding an official program for the St. Louis Exposition are admirable, and that such a publication on those lines would be of much interest and value.

Yours very truly,

Chauncey M. Depew.

United States Senate.
Washington, D. C.

April 25, 1904.

Dear Miss Teepell:

The cover design proposed to be used in connection with the official program or souvenir guide for the United States government buildings at the Louisiana Purchase Exposition has come to my attention, and having carefully examined it, I am impressed with its general appearance and the logical arrangement of features which contribute to make it specially appropriate and worthy of commendation.

It seems to me you should have little or no difficulty in securing favorable consideration at the hands of the Exposition authorities, for you are certainly entitled to much credit for the ingenuity displayed in the execution of this work.

Very truly yours,

Chas Dick.

United States Senate,
Washington

December 10, 1903.

Miss Teepell:

I have examined with considerable interest your suggestion of an official programme for the St. Louis Exposition. I appreciate the many very excellent points made on your production. It is original and very ingenious.

Truly yours,

M A Hanna

Miss Elsie Teepell,
Cleveland, Ohio

I concur in the foregoing expression of Senator Hanna.
William R Day

President pro tempore
United States Senate

Dear Miss Teepell

Your official programme for the St. Louis Exposition is extremely novel and interesting. I am confident from my examination of it that it should be received generally

Wm P Frye

January 26th

COMMITTEE ON WAYS AND MEANS,
House of Representatives,
Washington, D. C.

Miss E. Teepell
Philadelphia, Pa.

Jany. 25th, 1904.

I have examined with great pleasure your proposed souvenir in connection with the United States Government buildings at the St. Louis Exposition. I think it contains great merit; it tells the story of our progess as a Nation in very apt, concise and interesting terms and I trust that you may be able to secure favorable consideration of it by the officers of the St. Louis Exposition.

Yours Truly,

Sereno E. Payne

"SILENT REMINDERS"

McKINLEY SOUVENIR ENCOMIUMS

from

EMINENT NATIONAL PERSONAGES

The Arlington:

WASHINGTON, D. C. January 20, 1904

Miss Teepell

Upon proposed souvenir U.S. Gov. Building Inside take used at the St Louis Exposition with a great deal of pleasure. She not only Curious and interesting but instructive. I can not doubt its ultimate success for the purpose for which it is designed

Yours very truly

Albert B. Cummins

The Evening Press

PHILADELPHIA

MORNING OF DAILY EDITION

January 22nd, 1904.

Dear Miss Teepell:

I have had the opportunity of examining the design of your proposed souvenir for the United States Government building at the St. Louis Exposition and have been much interested in it. The conception is original and effective, and it seems to me to have been worked out with great skill and with excellent results. The thought of applying a particularly happy and descriptive phrase of President McKinley's last speech to itself felicitous and the clock which keeps the time of National progress is fitly set at this Exposition. I think the design is worthy of consideration on the part of those who have to deal with it.

Yours very truly.

Chas. Emory Smith

STATE OF OHIO
EXECUTIVE CHAMBER
COLUMBUS

March 21, 1904.

Miss Teepell:

I take pleasure in commending your conception of an official program for the Saint Louis Exposition. It is interesting and unique, showing research and investigation.

Sincerely yours,

Miss Elsie Teepell,
Cleveland, Ohio.

Office of the Mayor
PHILADELPHIA

December 14th, 1903

Miss Elsie Teepell,
Cleveland, Ohio

My dear Miss Teepell.

I have examined the suggested cover for the Louisiana Purchase Exposition with considerable interest. I think it is a splendid one. Your arrangement of a dial of centuries with the map of the United States on the face of the dial showing the territory purchased from France in 1803, and the whole general arrangement of it is very good. Particularly, am I struck with what appears immediately upon looking at the cover,- that 1803, the date of the Louisiana purchase, is removed from 1776, the year of the signing of the Declaration of Independence, the same distance that 1903, the time of the Louisiana Purchase Exposition, is from 1876 when the first great Industrial Exposition was held in United States, namely, the one in Philadelphia. I could not think of any better cover for the official Exposition Guide

President McKinley's last speech at Buffalo on the cover of the Guide Book is also very good, and the quotation from his speech "Our interest is in concord, not conflict" with the flags of all nations thereunder, is certainly something that could not be improved upon.

I think the whole suggestion is very good, and I wish you success in having the contract awarded to you.

Yours very truly,

Mayor

Mayor's Office.
CARTER H. HARRISON,
MAYOR

Dec. 26 1903.

Miss Elsie Teepell.
Cleveland: Ohio

Dear Madam,

Your design for the proposed new book cover of the official guide of the Louisiana Purchase Exposition are both interesting and attractive. Your idea is very happy one and I trust it will commend the favor of those to whom you expect to present it.

Yours truly,

Carter H. Harrison

CITY OF CLEVELAND
EXECUTIVE OFFICE
TOM L. JOHNSON, MAYOR

December 28, 1903.

Miss Elsie Teepell
Cleveland, O

Your design of cover for the official programme for the St. Louis Exposition is both unique and original. Its general appearance also utilizes me favorably. A careful study of it should be of educational value, and therefore it has that to commend it aside from its attractiveness. I think it worthy the effort of one of Cleveland daughters, and I should be very pleased indeed to see it accepted as the cover scheme for the official programme.

Yours very truly,

Mayor.

interest, viz., a magnetometer and dip circle of the kind used in the first half of the nineteenth century.

Drawings and diagrams illustrate some of the steps in constructing the finished chart from the surveys made in the field.

Specimens of the 500 different charts published by the Survey are displayed, together with other publications which supplement the chart and furnish a variety of information for the navigator, civil and military engineer.

Bureau of Standards.

The exhibit of the Bureau of Standards is designed to furnish an educational and, to some extent, historical view of the general subject of weights and measures and measuring instruments. The exhibit consists of standards adopted by the Government, instruments used in making comparisons, also weights, measures and measuring instruments manufactured in this country of the type the Bureau is called upon to test, and in several cases the actual process of testing is shown. Supplementary to this exhibit, the Bureau has established a testing laboratory in the Electrical Building, at which may be seen the work of electrical testing in actual progress.

The functions of the Bureau include the custody of the national standards, the construction of copies, multiples and subdivisions of the fundamental standards; the production of the derived standards used in measuring volume, density, velocity, pressure, energy, electricity, high and low temperatures and illumination; the comparison of the standards and measuring instruments used throughout the country with the standards of the Government; scientific investigations connected with metrology; and the dissemination of knowledge concerning these subjects as applied in the arts, sciences and industries.

In the exhibit will be found a duplicate set of the standards of weight and measure, and balances furnished to the States of the Union under act of Congress. These standards include those of the customary weights and measures and those of the metric system.

An exhibit of historical interest includes the former standards of length of the United States; the 82-inch scale made by Troughton, of London, of which the distance from the 27th to the 63d inch constituted the standard yard of the United States from 1830 to 1856; the bronze copy of the Imperial Yard, called "Bronze Yard No. 11," which was the standard yard of the United States from 1856 to 1893. The present fundamental standards of mass and length of the United States are the official copies of the international metric standards of the meter and the kilogram. The yard and pound of the United States are fixed and defined in terms of these standards.

On a table will be found a comparator made by the Societé Genevoise, showing the process of comparing two bars, and how the micrometer is read.

On another table is shown a precision balance which, when in use, is operated by an observer at a distance of fifteen feet. By means of pan rods, the balance can be lowered on the knife edges and the weights transported from one pan to the other. The oscillations of the beam are also read by the observer fifteen feet away.

Of special interest are the sets of weights and measures and balances designed for the use of Sealers of Weights and Measures, of which those used in America, France, and the United States, are exhibited. The 36 per cent. nickel-steel, called "invar," is a material of great importance to metrology. A nickel-steel meter made by the Societé Genevoise, having a coefficient of expansion about one-fifteenth that of ordinary steel, will be found among the modern standards of length.

A polariscopic outfit, such as is used by the United States Customs Service in the determination of duties on imported sugars, is shown. This apparatus is standardized at the Bureau of Standards.

The various optical pyrometers for measuring high temperatures are exhibited and are accompanied by charts and descriptions. These pyrometers will be shown in operation to persons interested in pyrometric work.

In the cases will be found electric furnaces, resistance and thermo-electric pyrometers, pyrometer galvanometers, porcelain materials, and other accessories used in pyrometry, together with illustrative diagrams. Primary standard mercurial thermometers, in the range −35° C. to +550° C., made by Baudin, Tonnelot and Niehls; secondary standards for clinical thermometer testing; toluene and pentane thermometers for low temperature measurements to −200° C.; and "faden" thermometers for determining corrections for emergent stem of mercury thermometers are shown in the cases.

As an example of one of the simpler lines of thermometer testing, the complete equipment for testing clinical thermometers, as carried out at the Bureau, is shown on one of the tables. The process consists in a preliminary examination for defects of construction and difficulty of throwing back index, and two independent comparisons with two standard thermometers at four temperatures. If the thermometer passes the preliminary examination, and its corrections do not exceed 0.3° F. at any point, and it repeats its readings to within 0.15° F., it is awarded a certificate stating the corrections, and is engraved with the identification marks of the Bureau.

The electrical section of the exhibit consists of typical forms of electrical standards and measuring instruments, such as standard cells, resistance standards, potentiometers, condensers, and inductances. The remaining portion of the electrical exhibit of the Bureau will be found in the special testing laboratory of the Bureau in the Electrical Building. This laboratory is designed to show the more important kinds of electrical testing in actual operation.

Bureau of the Census.

The exhibit of the Census Office consists principally of large maps, of which there are sixteen; a series of twelve maps shows the distribution of the population at the censuses from 1790 to 1900, and the remaining four show the proportion of negroes to the total population in 1900, the proportion of the foreign born to the total population in 1900, the centers of agriculture and manufactures from 1850 to 1900, and the center of population from 1790 to 1900. There are also three large diagrams in colors; one of these compares the growth of the population of the United States with that of the principal countries of Europe from 1800 to 1900, another divides the population of the United States into its principal elements, from 1790 to 1900, and the third presents the foreign-born by principal nationalities at each census from 1850 to 1900. These maps and diagrams are located about the walls of the exhibit. There is also a swinging case containing a set of the plates published in the Statistical Atlas. Under glass are shown specimens of schedules returned by the enumerators for each census of the United States, and schedules returned for Cuba, Porto Rico, and the Philippine Islands.

The schedules for the earlier censuses of the United States probably form the most interesting feature of the exhibit. They have been selected especially to show the returns of families of eminent men; for example, the schedules for the census of 1790 show the enumeration of George Washington, Thomas Jefferson and John Adams. At other censuses schedules are shown containing the enumeration of Andrew Jackson, Daniel Webster, Grover Cleveland, William McKinley, Theodore Roosevelt and other famous Americans.

In this exhibit will be found a full set of Census reports from the first census to, and including, 1900, and a complete set of the blanks used for the Twelfth Census.

Light-House Board.

The exhibit of the Light-House Establishment consists of:

(1) Models of various light-houses, showing the constructions designed to meet the diversified conditions arising along the coasts from the cold, rocky shores of Maine to the warm, sandy shores of Florida.

(2) Samples of the lens apparatus used, from the large first order lights for the seacoast to the small lanterns used on rivers, including also the lenses used on the masts of light vessels.

(3) The different apparatus used for fog signals, from the first-class siren to the bell-striking apparatus.

(4) Transparent photographs of many of our important light-stations and light-vessels.

(5) Samples of all the lamps used in the light-house service.

Models of the following-named light-houses have been included in the exhibit:

Minots Ledge Light-House, which was probably the first important structure erected by the Light-House Board.

Fowey Rocks Light-House, built on the coast of Florida and lighted in 1878.

Southwest Pass Light-House, situated at the mouth of the Mississippi River.

Brandywine Shoal Light-House, in Delaware Bay, about eight miles from the ocean.

Spectacle Reef Light-House, situated on the reefs in Lake Huron.

Coffins Patches, situated on the Florida Reefs, about fifty miles east of Key West.

The lenses exhibited are of various sizes and illustrate both fixed and revolving lights. They are all of the lenticular system of Fresnel. The glass prisms or rings in the lenses are so formed as to throw horizontally a disc of light of about the height of the lens (12 feet in the first order), toward the horizon; this disc being composed of the total amount (or nearly so) of the light emitted by the lamp in the center. In the fixed light the rays are concentrated in the vertical plane, the candle power of the lamp in the focus is sometimes multiplied thirty times by passing through the lens. In the revolving lights, where the concentration is not only in the vertical but also in the horizontal plane, the increase in candle power is sometimes enormous, especially in some electric lights, where the candle power of the flash is one hundred thousand times the power of the lamp in the focus of the lens.

In addition to these lenses, some small-sized apparatus are also made and are shown by two different models—the lens lanterns which are used in small light-stations and the light-ship lanterns which are set on board of light-vessels. These vessels, a model of which is also shown, are anchored at sea at dangerous points and take the place of light-houses, which would be either too expensive or too difficult to erect.

The post lanterns exhibited are a cheaper kind of apparatus and are generally used when lighting dangerous places or channels in rivers where a great range of visibility is not deemed of importance.

The fog signal apparatus exhibited consists of two fog-bell striking machines, a Daboll trumpet, a siren and an automatic device for obtaining from the last two an emission of the sound at regular intervals. Every one of these apparatus is of American make.

The locomotive headlight model shows the style of light occasionally used for range lights.

The old illuminating apparatus from Lime Rock shows the former state of the art.

The first order lamp from Henry Lepaute and the mechanical lamp, are from the Light-House Establishment Museum, and show the style of lamps in use many years ago.

At the base of the Fowey Rocks Light-House model are exhibited the lamps using kerosene oil employed in the United States light-house service. They are all the product of American workmanship, and have been designed and made for the Light-House Board. Without being elaborately constructed, their efficiency is such that when compared to any other system of kerosene lamps, they have always proved more economical and powerful.

In an annex to the main exhibit, in connection with the fog-signal machines, are exhibited transparencies showing the most important light-houses and light-vessels. These transparencies, sixty in number, give the name of the stations and their location and allow comparison of the different styles of structures required to suit different latitudes.

As a whole, the exhibit, excepting the lenses, has been selected more with the view of showing the results obtained in this country in general, without trying to show the latest progress of the Light-House Establishment.

THE SMITHSONIAN INSTITUTION AND UNITED STATES NATIONAL MUSEUM.

Frederick W. True, Representative.

The Smithsonian Institution, established by act of Congress in 1846, is based on the bequest of James Smithson, an Englishman, for the foundation of an institution in Washington for "the increase and diffusion of knowledge among men."

The Government has from time to time placed under the direction of the Smithsonian Institution various organizations, chiefly scientific, which receive appropriations annually from Congress. These at present are the United States National Museum, the Bureau of American Ethnology, the Bureau of International Exchanges, the National Zoölogical Park and the Astrophysical Observatory.

The United States National Museum is the depository of the collections of the Government and comprises the largest collection of objects of natural history and ethnology in America. It is especially rich in specimens of animals and plants of North America, collections illustrating the life and arts of the North American Indians, and geological collections from the United States, both scientific and economic. The museum at present contains nearly 6,000,000 objects.

The Bureau of American Ethnology engages in the investigation of the native peoples of America, and especially the languages, customs and arts of the North American Indians.

The work of the Bureau of International Exchanges consists in effecting the interchange of scientific publications throughout the world.

The National Zoölogical Park, which is located in the famous Rock Creek Valley, in the District of Columbia, is intended as a means of familiarizing the people with the more important and interesting native animals of America, and as far as possible preserving species which are threatened with extinction through the increasing settlement of wild lands.

The work done by the Astrophysical Observatory has to do chiefly with the investigation of the constitution of the sun and the effects of its changing conditions on climate and agriculture.

Smithsonian Institution Proper.

The exhibit of the Smithsonian Institution proper, installed in a special pavilion, includes memorials of the founder, James Smithson, portraits of the Regents and of the Secretaries, objects illustrating the Hodgkins fund (established by Thomas George Hodgkins for the investigation of atmospheric air), and the great series of publications on which the fame of the Institution so largely rests. A complete set of the publications of all the bureaus is also included here.

United States National Museum.

Although every bureau connected with the Smithsonian Institution is represented at the Exposition, the National Museum, on account of its great resources and special facilities for exhibition, makes the principal exhibit.

Department of Geology.—The exhibit of the Department of Geology in the National Museum was organized by Dr. George P. Merrill, Head Curator, with the assistance of the scientific staff of the department. Probably the most striking object exhibited by this department is a restoration of the remarkable extinct reptile known as a stegasaur, which is not unlike a huge "horned-toad," with a double row of large, flat spines along the back and tail. Its length is about twenty-five feet. With this extraordinary creature, will be shown the singular reptile, triceratops, which was exhibited at the Buffalo Exposition of 1901. Many visitors to the latter Exposition confounded the triceratops with the mastodon, and in order to correct this false impression, as well as for general interest, there is here exhibited a skeleton of a mastodon, and alongside of it the skeleton of an elephant.

Another extremely interesting exhibit of this department is a collection of meteorites and casts of the largest meteorites known, the greatest of which (one of the Peary irons from Greenland) exceeds 10 feet in length and is estimated to weigh from seventy-five to ninety tons. The Bacubarito meteorite from the province of Sinaloa, Mexico, here shown, is the second largest known, weighing about forty tons. Another interesting meteorite is the Ainsa-Irwin, or ring, meteorite from Tucson, Arizona. This collection presents a unique opportunity for Exposition visitors to see together the largest masses which are known to have fallen from the sky.

Quite as interesting, and far more brilliant, of course, is a collection of minerals, including the most beautiful kinds from all parts of the world. This is supplemented by two other collections, showing forms of silica and forms of carbonate of calcium. These perhaps sound uninteresting, but the collections are quite otherwise, including as they do fine specimens of quartz, agate, opals and a variety of other beautiful stones which are forms of silica. The variety of exquisite coloring and remarkable form is equally great in the case of the carbonate of calcium which includes Iceland spar, marble and corals.

The exhibit of fossil animals includes (among invertebrates) the large nautilus, beautiful sea-lilies or crinoids, and, among vertebrate animals, fishes and reptiles, exhibited on slabs of the rock in which they are found. Included among the vertebrates, in addition to the stegasaur and triceratops, above mentioned, is an example of the pterodactyl, an extinct reptile empowered with flight, and the complete skeleton of a moa, a large extinct flightless bird.

Department of Biology.—The exhibit of the Department of Biology was prepared under the direction of Dr. F. W. True, Head Curator, with the assistance of Mr. F. A. Lucas, chief of exhibits, and other members of the scientific staff of the department. The most striking object is a cast of a sulphur-bottom whale from Newfoundland, 80 feet long, showing the natural appearance of this greatest of all living creatures. The massive skeleton is exhibited with the cast.

Another exhibit comprises large game from all parts of the world, including such animals as the hippopotamus, rhinoceros, lion, tiger, giraffe, moose, caribou, axis-deer, sambur-stag and other large deer, together with antelopes and various small species, such as wild sheep, chamois, etc. These are, as far as possible, perfect examples of their kind, prepared in the best style of modern taxidermy. The giraffe is an exceptionally fine example and stands nearly 18 feet high.

From the vast group of birds there are exhibited specimens of those which have a popular interest, such as the game birds, the wonderful birds-of-paradise, the gorgeous pheasants, including three species of peacock, and some such large birds as the vulture and pelican. A special case represents the life of a curious bird from Guiana, South America, known as the hoactzin, showing its environment, nests and eggs, and how the young climb about the branches by means of specially-developed claws. Two cases contain interesting nests and eggs from all parts of the world, including the great egg of the epyornis, an extinct bird from Madagascar.

An exhibit which is intended to give the public a new idea of the denizens of the sea is a collection of enlarged models of deep-sea fishes. These animals include among them some of the strangest and most grotesque forms of life, but on account of their small size and the extremely bad condition in which they are dragged up from the depths of the sea, their remarkable character is not generally appreciated.

The exhibit of reptiles comprises some large and striking forms such as the python from the Orient; the hooded cobra, one of the deadliest of snakes, whose victims in India number thousands every year; the well-known rattlesnake, and the little-known but poisonous harlequin snake of the United States. Facing one another are an American crocodile and alligator, showing the differences between these two largest of American reptiles.

The most beautiful feature of the exhibit of this department, perhaps, is a collection of butterflies including the largest and most brilliant forms of the tropics of America and the Old World.

Other invertebrates are shown in systematic order, not only on account of the interest which attaches to many of them, but in order to illustrate modern scientific methods of museum installation, preparation and labeling.

Last in this department, but by no means least, is a reproduction of the "Children's Room" in the Smithsonian Institution, which has attracted so much attention since it was opened to the public

two years ago. The size and shape of the room are reproduced as far as circumstances permit, together with its cases, aquarium, decorations, and a large part of the series of objects expressly selected for the interest which they may be supposed to have for children. It will be a matter of surprise if the room does not attract grown people quite as much as children.

Department of Anthropology.—The exhibit of this department, as well as that of the Bureau of American Ethnology, was prepared under the direction of Mr. W. H. Holmes, Chief of the Bureau. The principal object of the department's exhibit is to show the æsthetic products of the native American peoples. The exhibit covers the entire range of their arts and manufactures in so far as they have an artistic and æsthetic side, and the specimens chosen in each case are as far as possible the highest examples of their kind. Included among them are illustrations of native architecture, sculpture, ceramics, fabrics, metal-work and of the manifold development of æsthetic ideas shown in native watercraft, musical instruments, pipes, ceremonial objects, etc. The visitors have thus placed before them a synopsis of the achievements of our native peoples, from the far north southward through the United States, Mexico, Central America and South America to Patagonia. The most striking feature of this exhibit is a series of five models of ancient Aztec ruins in Mexico, namely the "Temple of the Cross," at Palenque, Chiapas; the "Temple of the Columns" at Mitla, Oaxaca; the temple of Xochicalco, at Morales; the "Castle" at Chichen-Itza, Yucatan; and the "House of the Governor" at Uxmal, Yucatan.

There is also exhibited by this department a number of plaster casts of interesting religious sculptures of the Assyrians, Egyptians, Greeks and Romans.

Bureau of American Ethnology.

The exhibit of the Bureau of American Ethnology is planned to illustrate the researches carried on by the bureau. One of the ethnologists of the bureau, for example, is engaged in studying the customs of the Pawnee Indians, paying special attention to their system of heraldry. The exhibit in this case includes shields on which are painted the crests of particular groups of men from the tribe, garments on which heraldic devices are embroidered or woven, and other similar objects which serve to explain the peculiar system of this and other tribes. Various other topics are illustrated in a similar manner, from which visitors will be able to form a correct idea of the character and scope of the work of this bureau.

National Zoological Park.

The exhibit of the National Zoölogical Park is made outside of the Government Building, and in a specially erected aviary, described elsewhere in this GUIDE.

Astrophysical Observatory.

The activities of the Astrophysical Observatory, though of a very important nature, are difficult to illustrate in an exposition, but an endeavor has been made to show some of the results of its work in graphic form, and the operation of some of its more important instruments, as, for example, the bolometer. This extraordinary instrument, the invention of Mr. S. P. Langley, Secretary of the Smithsonian Institution, is a kind of electrical thermometer capable of detecting variations of one one-millionth ($\frac{1}{1,000,000}$) of a degree. In one of the cases is an actual working instrument which registers slight variations of temperature, as, for example, when one's hand is placed near it and withdrawn. A very large chart of the solar spectrum is shown, and especially that part known as the infra-red, upon which a great deal of work has been done in the observatory. A number of transparencies illustrating the building, instruments and investigations of the observatory are also shown.

Outside of the Government Building is a large coelostat, an instrument used for throwing the sun's rays to a particular point. Here the rays are thrown into a dark room in the Smithsonian pavilion and through a prism, forming a beautiful spectrum about the walls of the room.

Bureau of International Exchanges.

This bureau exhibits in the Smithsonian pavilion a chart and photographs explanatory of the useful work it carries on in distributing scientific publications throughout the world. It is one of those Governmental agencies, which is quietly performing a great service to the world.

DEPARTMENT OF LABOR.

(Now Bureau of Labor, Department of Commerce and Labor.)
G. W. W. Hanger, Representative.

The exhibit of this Bureau, which was undertaken under the provisions of the law, prior to its inclusion July 1, 1903, as a Bureau under the Department of Commerce and Labor, is installed on the exhibit space of that Department, in close proximity to the exhibits of its other participating bureaus, namely, the Coast and Geodetic Survey, the Bureau of Standards, the Bureau of the Census, and the Light-House Board.

The work of the Bureau of Labor is largely statistical in character. For this reason the exhibit has been necessarily confined within narrow limits so far as its character is concerned, although the range of subjects covered is considerable, embodying practically all of its investigations and reports which furnish material susceptible of use for exhibit purposes.

The exhibits are of three principal kinds, as follows: First, complete sets of the publications of the Federal and State bureaus of labor and of the factory inspectors of the various States, together with volumes of Federal reports relating to labor and industrial conditions—this entire collection of reports being intended to illustrate important functions of the Federal and State Bureaus; second, a number of series of charts illustrating in graphic form the results of some of the important investigations of the Bureau of Labor, and incidentally including the results of special investigations and researches which were undertaken for the purpose of extending and supplementing certain interesting features of the Bureau's work; and, third, a number of series of photographs and plans illustrating still other features of the work of the Bureau.

There will be published within a few months a Bulletin of the Bureau which will contain a series of papers covering not only the various subjects included in this exhibit, but also the subjects of labor bureaus and labor statistics in general. The papers descriptive of subjects of the exhibit will be illustrated with reproductions of the most important charts and photographs which relate to the particular subject covered and will contain also the figures upon which the charts are based. The results of the labor and research undertaken in connection with the preparation of this exhibit will thus be placed in a form both permanent and convenient for reference.

The first four subjects in the appended list of the papers which will constitute this Bulletin do not relate especially to any of the exhibits, although obviously of great interest in connection with a consideration of the work of the Bureau of Labor and of the subject of labor statistics in general. For each of the remaining subjects, however, an illustrative exhibit of charts or photographs has been made. A number of the papers are in the nature of monographs, while others will consist simply of brief descriptions of the exhibits relative to the subject, together with only such figures and interpretative and explanatory material as are deemed essential to an understanding of the charts and other exhibits. The subjects to be covered are as follows:

1. The Value and Influence of Labor Statistics.
2. The Working of the United States Bureau of Labor.
3. Bureaus of Statistics of Labor in the United States.
4. Bureaus of Statistics of Labor in Foreign Countries.
5. Strikes and Lockouts in the United States.
6. Rates of Wages in the United States and Europe.
7. Cost of Living in the United States.
8. Housing of the Working People in the United States by Employers.
9. Hand and Machine Labor in the United States.
10. Building and Loan Associations in the United States.
11. Public Baths in the United States.
12. Trade Education in the United States.
13. Wholesale Prices in the United States.
14. Labor Legislation in the United States.

The exhibit contains series of elaborate charts illustrating each of the subjects numbered 5, 6, 7, 9, 10, 13 and 14, and almost a thousand photographs illustrating the three subjects numbered 8, 11 and 12.

LIBRARY OF CONGRESS.

Roland P. Falkner, Representative.

The exhibit of the Library of Congress has been planned to illustrate the function of the Library in the preservation of the printed records of the national life of the United States.

An aisle divides the exhibit into two sections, unequal in size. The larger section is devoted to the specific characteristics of the Library of Congress as the National Library, the central feature here being a cross-section model of the Library building. This model shows the structure of the building and its admirable equipment for library purposes. The center of the building is formed by the great reading room and is flanked by two large stacks for the deposit of books, while beyond the stacks are a number of the special departments and administrative offices of the Library. In this section it has not been possible to display all of the activities of the Library administration, and the model is supplemented in this particular by a collection of pictures on the partition wall at its rear. On this wall, in the form of a frieze around its top, is represented one of the characteristic decorations of the Library building—the series typifying the evolution of the book. Beneath the frieze are a large number of photographs showing in detail the several working divisions of the Library.

Surrounding the model are cases containing typical exhibits from the several divisions of the Library, including books of various kinds, interesting through their form, their age, or their relation to the Nation's history. A small collection of maps illustrates the progress of knowledge with respect to America and particularly with reference to the Mississippi Valley and Louisiana. Displayed in a wing frame case is a collection of portraits of Jefferson, interesting as displaying the different interpretations of his features by various artists and engravers. Here also are specimen manuscripts bearing on the history of the United States, and

among them are certain manuscripts which exemplify the ingenious processes employed in preserving this material in the Library of Congress. Another case is devoted to the Music Division, whose collections constitute a prominent and unique feature of the Library, while in another part of the space are a table and shelves on which is displayed a series illustrating the processes of binding and the results obtained in the branch bindery of the Government Printing Office located in the Library building. The wall space of this section of the exhibit is occupied by pictures of the national libraries of the world, affording a contrast with that of the United States.

Across the aisle on the smaller section of the space is a collection of material designed to illustrate the progress of libraries generally and the methods of library administration, a collection prepared in co-operation with the American Library Association. The statistical charts on the wall exhibit the progress of libraries in the United States, and the framed pictures depict some of the principal libraries in the various cities, while the frieze is composed of reproductions of the artistic decorations of the Boston Public Library. A collection of photographs from the large reference libraries of the great cities down to the modest libraries of the small villages is displayed in wing frame cases. Modern processes of cataloguing receive an illustration in the printed cards of the Library of Congress, the American Library Association, and the International Institute of Bibliography.

THE HAGUE CONFERENCE.

(From la_: photographic reproduction of the original painting, exhibited by the Bureau of the American Republics.)

This was an international conference of delegates which assembled at The Hague, the seat of government of the Netherlands, on May 18, 1899, in response to an invitation addressed by the Czar of Russia to the principal States of the civilized world, with a view to concerted action for the maintenance of a general peace, the amelioration of the hardships of war, and the possible reduction of the military and naval armaments of the world. One hundred delegates, representing the United States, Mexico, China, Japan, Persia, Siam, and twenty-one European powers were present. No delegates from the Central or South American Republics attended. The Conference was in session from May 18 to July 29, and its conclusions were embodied in a final act signed on the last-named date by all the States represented. Of these conclusions, the convention relating to mediation and arbitration aroused the most general interest. With a view to the settlement of disputes between States by arbitration, a Permanent Court of Arbitration was created, the first resort to which was made by the United States and Mexico in 1902 for the settlement of the controversy in regard to the Pius Fund Claims.

At the Second International Conference of American Republics, held at Mexico City in 1901, the republics of Central and South America joined the United States and Mexico in agreeing to the provisions of The Hague Conference conventions.

The annexed illustration is a reduction of a full-size photograph of the mammoth painting of The Hague Conference executed by the celebrated French artist, M. Toché, under commission from the Government of France, and designed to be placed in the Palace of Peace in which the Permanent Court of Arbitration will sit, the funds for the construction of the Palace having been donated to the Netherlands by Andrew Carnegie.

INTERNATIONAL BUREAU OF THE AMERICAN REPUBLICS EXHIBIT.

THE INTERNATIONAL PEACE CONFERENCE AT THE HAGUE.

Copyright by M. Toché.

THE INTERNATIONAL BUREAU OF THE AMERICAN REPUBLICS.

Williams C. Fox, Representative.

The International Bureau of the American Republics was established under recommendation of the International American Conference held in Washington in 1890, for the purpose of maintaining closer relations between the several Republics of the Western hemisphere. It was reorganized by the International American Conference held in Mexico City in 1901, and its scope widened by the imposition of many new and important duties.

A prominent feature of the new arrangement was the foundation of the Columbus Memorial Library, now a section of the Bureau, and destined, it is hoped, to become a lasting institution of unique character, in that it is composed, almost exclusively, of books, maps and photographs, descriptive of the history, manners and customs, commercial development, etc., of the nations of Central and South America. The library contains about 11,000 volumes, a considerable portion of which forms a collection of Latin-American law, which, although still imperfect, is probably the best to be found in any public library of the United States. Named in memory of Christopher Columbus, the library has accumulated some valuable books and monographs concerning this ancient navigator and other early explorers, as well as some rare seventeenth and eighteenth century books and maps, both quaint and curious, relating peculiarly to the history of South America; the whole library forms a nucleus admirably adapted for future growth.

The Bureau corresponds, through the diplomatic representatives in Washington of the several American governments, with the executive departments of these governments, and is required to furnish such information as it possesses or can obtain to any of the Republics making requests. It is the custodian of the archives of the International American Conferences, and is especially charged with the performance of duties imposed upon it by these conferences.

The Bureau is sustained by contributions from the American Republics in proportion to their population. It publishes a monthly bulletin containing the latest official information respecting the resources, commerce and general features of the American Republics, as well as maps and geographical sketches of these countries, which publications are considered public documents and as such are carried free in the mails of all the Republics.

In preparing the exhibit of the Bureau, an effort has been made to indicate figuratively as far as possible the work in which it is engaged, as well as to illustrate certain important matters of deepest interest to all the Republics of the American hemisphere. The chief work of the Bureau is shown in a collection of its publications and numerous maps, prepared and issued under its auspices. A feature of the exhibit is a fine collection of Columbiana, consisting of maps, rare books, paintings, many photographs and engravings illustrative of the earlier history of and showing the present progress and conditions in Latin America.

The great work of constructing the Panama Canal, being the most important undertaking of this century, is illustrated by a relief map, together with an interesting collection of various data concerning it.

The projected Intercontinental Railway is represented by a relief map, accompanied by well-chosen samples, geographically arranged, of the chief products of the countries through which the railway will pass.

Fac-similes of the declarations of independence and copies of the constitutions of the several American Republics are shown.

There are pictures of many of the leading men of Latin America and portraits of the members of the First and Second International Conferences, the former held in Washington in 1890 and the latter in Mexico City in 1901. There are also portraits of the men forming the several international commissions, and of delegates to subsidiary conferences held in the interest of American progress.

A particularly interesting feature of the exhibit is a photographic reproduction of the mammoth painting of the Hague Conference executed by the celebrated French artist, M. Toché, under commission from the Government of France, and designed to be placed in the "Palace of Peace," in which the International Court of Arbitration will sit, the funds for the construction of which were donated to the Netherlands by Andrew Carnegie.

United States Commission of Fish and Fisheries Building.

Description.

The Fisheries Building is situated 175 feet to the west, on the prolongation of its longitudinal axis, of the Main Government Building.

It is of wood construction covered with staff, is square in plan, 136 feet by 136 feet, with an open court 74 feet by 74 feet in the center.

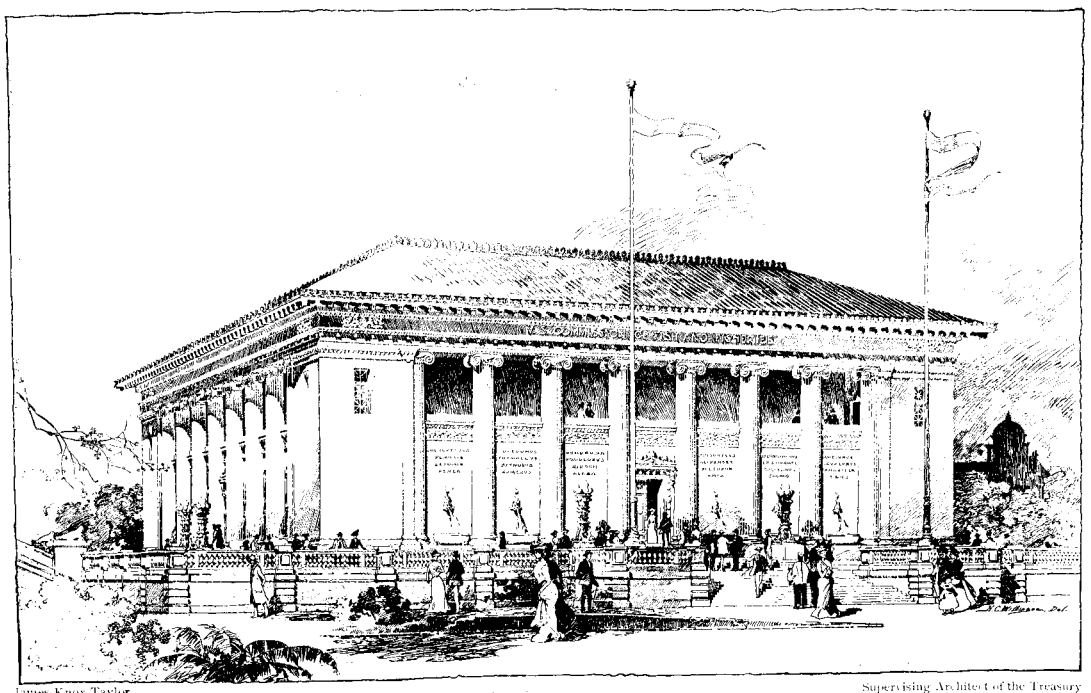
The open court in which is displayed the case exhibit of the Fish Commission is treated like a Pompeian Atrium. A large pool, 24 feet square, surrounded with twelve Doric columns, 3 feet 10 inches in diameter, which support the roof, is situated in the center of the court. The roof is open above the pool, corresponding to the compluvium of a Roman house, while the pool beneath corresponds to the impluvium.

The exterior of the building is classic like the Main Building, but instead of following the traditions of Rome as has been done there, those of Greece and Athens have been followed. The façades are ornamented with Ionic columns 4 feet in diameter and 36 feet high. These columns are engaged for three-fourths of their height, the upper quarter being free standing and supporting an open loggia. Between each pair of columns is a fountain playing into a large basin, supported on the backs of turtles. Over the fountains and between the columns are placed the Latin names of the families and groups of fishes arranged as follows:

East and north walls, marine shore fishes; west wall, fresh water fishes; south wall west, pelagic fishes; south wall east, deep sea fishes. Immediately behind these panels, and somewhat lower, are located the tanks containing the living fish.

These aquariums are seen from the interior, the light coming from skylights placed in the floor of the loggia referred to above, and passing through the glass front tanks into the grotto, giving a fine opportunity of viewing the fish in their native element.

In addition to the conventional Greek ornament appropriate to a building of this style, shells, dolphins and fish-forms have been freely introduced.



James Knox Taylor — Supervising Architect of the Treasury

UNITED STATES COMMISSION OF FISH AND FISHERIES BUILDING

EXHIBITS.

COMMISSION OF FISH AND FISHERIES.

William De C. Ravenel, Representative.

The National Government is not more wise and beneficent in any of its efforts than in the attention it bestows upon the fisheries. Representing an investment of $76,000,000, which affords an income of more than $50,000,000 to the 200,000 persons employed, these industries are no inconsiderable part of the commercial interests of the United States, and exceed in value the fisheries of any other country. National sponsorship for the fisheries is, moreover, especially fitting in a democratic government, for fish and other water products enter largely into the domestic economy of the poor as well as into the diet of the epicure.

The present Bureau of Fisheries, incorporated in the new Department of Commerce and Labor under the act of Congress approved February 14,

1903, dates its existence from 1871, when, as the United States Commission of Fish and Fisheries, it was established by Congress for the purpose of inquiring into the decline of the commercial fisheries, and of finding, if possible, a means to remedy the evil. Under the direction of Prof. Spencer F. Baird, the first Commissioner, the meagre appropriations for the first efforts of the Commission demonstrated so forcibly the value of fish culture that this has become one of the most important and best supported food-producing functions of the Government, and the United States holds first rank among nations for the extent and efficacy of its fish-cultural methods.

Up to the present time the Commission has hatched and distributed more than twelve billions of fish and eggs, three-fourths of this number being the output of the last ten years. The principal efforts have been directed toward the propagation of the important commercial species, and in the condition of these fisheries to-day is evidence of the effectiveness of the work. The Pacific salmons, which support the most important and extensive fishing industry in the world, have been rescued from danger of complete extermination; the shad, the most important fish of the Atlantic seaboard, owes its present abundance almost entirely to artificial measures, and in addition to the perpetuation of this species in its native waters, it has been introduced on the Pacific coast, where, from California to Alaska, it is now taken in large quantities, the catch at present being more than 1,250,000 pounds; the striped bass, also indigenous to eastern waters, has been transplanted with even greater success, the fishery now yielding over 1,500,000 pounds annually, worth $75,000; the fisheries of the Great Lakes, affording an income of $2,600,000 annually, are maintained in their present flourishing condition only by artificial propagation; and marine fishing, also, has benefited, the plants of cod-fry off the New England coast having established profitable fisheries on grounds where cod had not previously existed, or had not occurred in paying quantities for many years.

The Commission maintains thirty hatcheries and sixteen auxiliary hatching stations in various parts of the United States, the special efforts of each being directed toward species native to that region. Five railroad cars, designed for the purpose of transporting fish, distribute the output of the hatcheries, stocking public and private streams and lakes throughout the country with food and game species. A schooner built after the pattern of the fishing vessel does efficient service in cod and lobster culture on the Atlantic coast, and small steamers and launches are features of the equipment at several of the stations.

The fish cultural work of the Commission, however, is the practical application of the results of scientific research. All branches of marine and fresh-water biology, as well as the physical and chemical qualities of the water, have more or less direct bearing upon the fisheries, and a wide scope must therefore be given to the investigations. The various phenomena which bear upon the fisheries, the geographical distribution of fishes and other aquatic animals, their migrations and relative abundance under varying conditions, their food, enemies, the diseases and parasites that attack them, and those facts in their life history which are essential to the development of rational methods of fish culture are subjects of study by a permanent force of scientific assistants, supplemented, during the summer months especially, by the employment of trained investigators from various institutions of learning. For the promotion of such research, laboratories are maintained at two suitable points on the Atlantic Coast as well as in Washington, and two steam vessels are employed in physical and biological exploration of the shore and deeper waters of both coasts.

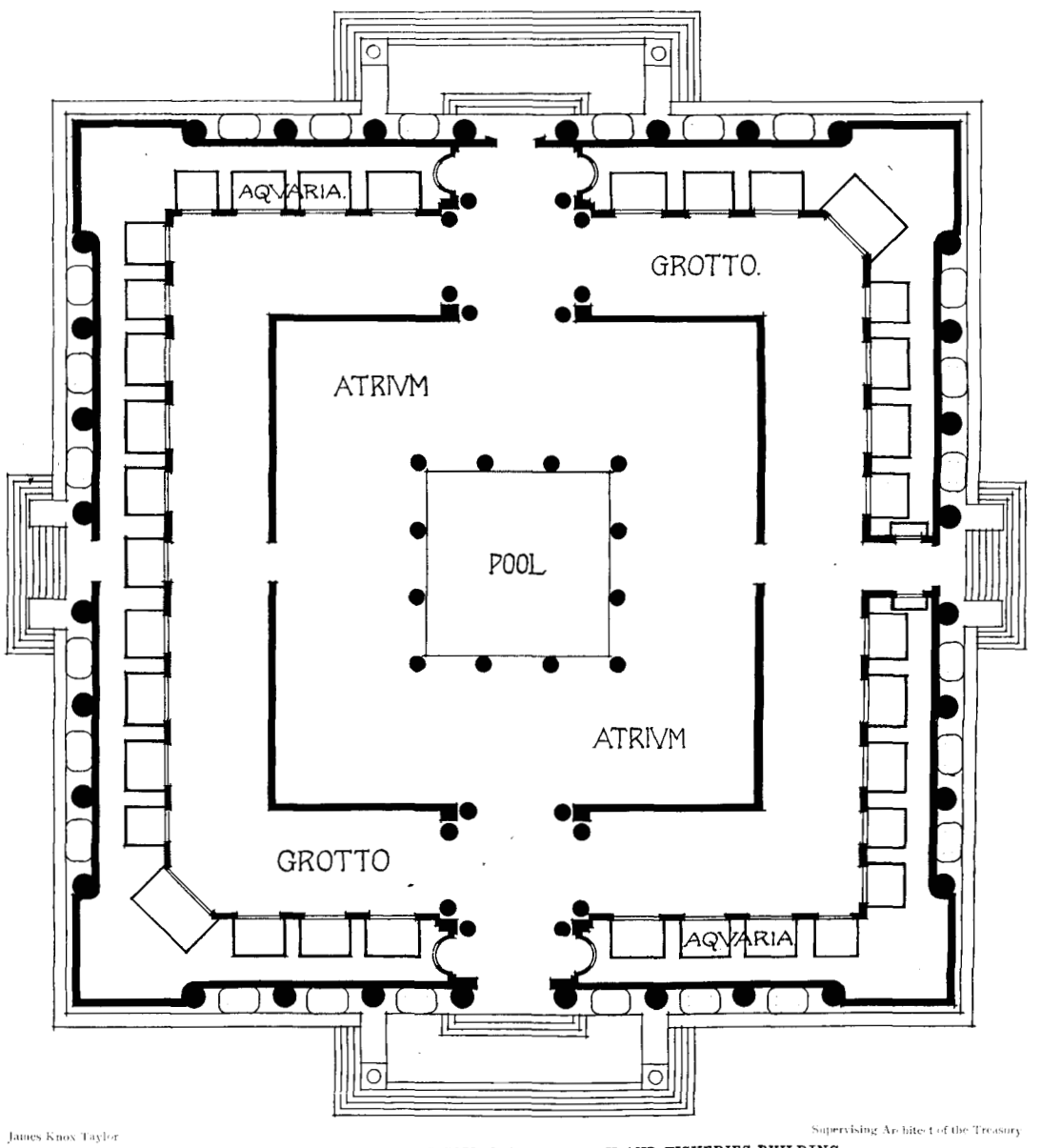
Unique among the Government Departments as to its status and functions, the Fish Commission also receives individual treatment at the Louisiana Purchase Exposition. The structure, devoted exclusively to the exhibit of the Commission, has been described above. Within the building, and extending entirely around it, is the grotto containing aquaria, which, with a broad aisle, are cut off from the central portion of the interior by a wall, lined with mirrors, which follows the square outline of the building. The species exhibited are representative of the salt and fresh waters of all regions of the United States, varying during the Exposition period as they can be secured at different seasons, and including a number of tropical forms from the West Indies and southern coasts, and, in the pool in the center of the court, seals and other large aquatic animals. The remainder of the exhibit occupies the court itself, and is treated in four sections, representing the fish-cultural work and the scientific investigations of the Commission, fishing methods and fishery products.

In the section devoted to fish culture it has been attempted to show in a measure the processes of hatching fish eggs, and here is to be seen trays or jars containing eggs of different species as they are obtainable at particular seasons. The apparatus for hatching varies according to the species, eggs of certain fishes requiring special conditions of incubation. Numerous forms of hatching appliances and accessories, collecting and spawn-taking outfits, and apparatus for transporting fry, with a model of one of the special railroad cars, are shown. There is also on exhibition outside of the building a fully equipped Fish Commission car, which is open to visitors.

An ingenious contrivance used in the upper waters of the Columbia River is the salmon wheel, a working model of which is here exhibited. A succession of dip nets fastened to the periphery of a wheel provided with paddles to revolve it automatically, catches the salmon as they are running up stream to their spawning beds, each net as it describes the upper half of its circular course depositing its load in a compartment beside the wheel.

A representation of the bed of Clackamas River, Oregon, one of the principal salmon streams, shows the rack, traps and pens used for catching and retaining the fish for the purpose of obtaining eggs for hatching purposes.

The lobster has been the subject of much biological study for many years, with a view to its successful cultivation. Millions of eggs have been taken each season, hatched, and the fry planted in suitable waters, but owing to the numerous enemies and exhaustive fishing, the supply of this most valu-



James Knox Taylor — Supervising Architect of the Treasury

FLOOR PLAN, UNITED STATES COMMISSION OF FISH AND FISHERIES BUILDING

able and delicious sea food has been gradually declining in spite of protective laws and persistent cultural efforts. Study of the life history of the lobster has shown, however, that the fry have many times greater chances of escaping their enemies after they pass the larval period and assume the habits of the adult than at the age when they are usually planted. In co-operation with the Fish Commission of Rhode Island, the United States Commission of Fish and Fisheries has devised and adapted to practical purposes apparatus by means of which young lobsters can be reared beyond the critical period of their career, and a working model of this apparatus is exhibited.

The character of the scientific work of the Fish Commission does not readily lend itself to exhibition purposes, but an effort has been made to represent its varied and comprehensive investigations by displaying some of the apparatus by means of which they are conducted. A considerable part of the equipment consists of instruments and apparatus, such as microscopes, microtomes, chemical apparatus, etc., which are common to other branches of research and are familiar to a large part of the public. These have accordingly been excluded from the exhibit, the space being utilized for apparatus used in littoral and deep-sea investigations. Models of the *Albatross* and *Fish Hawk*, the largest vessels in the service of the Fish Commission, are located in the central aisles. Both are manned and officered from the rolls of the Navy, and their investigations are conducted under the supervision of trained scientific assistants of the Commission. The *Albatross*, now in the Pacific Ocean, has had more service in deep-sea exploration than any other vessel in the world. Recently she has made cruises in connection with the investigation of the fisheries of the Hawaiian Islands and of the salmon industry of Alaska. Various parts of the equipment of the vessel are shown in model elsewhere in the exhibit. The *Fish Hawk*, in addition to explorations of the shore waters, the survey and charting of sponge, oyster and other fishing grounds of the Atlantic coast, is equipped as a hatchery, her principal efforts in this direction being addressed to the propagation of shad in the Delaware River.

The Tanner sounding machine here shown is an important part of the equipment of both of these vessels, being used for physical research in depths not exceeding 500 fathoms. The *Albatross* has, in addition, a steam-power sounding engine for use in greater depths.

The most efficient contrivance for obtaining specimens from the bottom of the sea is the beam trawl, a large net attached to an iron frame or "shoes," which is lowered into the water and dragged upon the ocean floor. Various modifications of this net are employed, one having been used by the *Albatross* at a depth of 4200 fathoms (four and three-quarter miles). In addition to the beam trawl and suspended from the ceiling above it are shown types of apparatus used for collecting material from the surface, bottom or intermediate depths. The tangle serves where the bottom is too rocky for trawls or dredges, catching specimens by entangling them in its hemp swabs. The Chester dredge and the Smith dredge are variants of the type designed to rake out and catch burrowing worms, mollusca, crustacea, etc. The ordinary dredges are used from small boats or from ships where the use of the beam trawl is impracticable. When brought out of the water the contents of these various appliances are emptied into a series of sieves, where they are washed to remove the mud and sand, sorted by the naturalists, and suitably preserved for study.

The large surface tow-net, which is lined with silk bolting cloth, is used to collect the swarming pelagic life. Though often individually insignificant, minute, or microscopic, the aggregate of this surface life is enormous and important, as it supplies, directly or indirectly, food for all aquatic animals. The intermediate tow-nets, two types of which are exhibited, are used when it is desired to determine definitely the depth from which specimens are obtained. These nets are sent down vertically, towed horizontally at the required depth, and then closed by a mechanism actuated by a messenger or weight slid down the tow-rope. No specimens are taken, therefore, either during descent or ascent, and the investigator is furnished with important information concerning the vertical distribution of the forms he studies. The Commission has recently adopted for field use a chest containing these various appliances in miniature, suitable for use from small boats and launches. A chest containing a beam trawl, dredge, tangles, tow-net, sieves, etc., is exhibited. Seines, gill-nets, scoop-nets, scrape-nets and other appliances used in shore collecting are variously shown in the section, and collecting tanks and chests for the preservation and transportation of specimens are also to be seen.

The lobster, the sponge and the oyster, supporting three of the most important fisheries of the United States, have been subjects of particular study on the part of this Commission in the last few years. The results of the lobster investigations are referred to elsewhere. The sponge experiments, which are still in progress, have been conducted with a view to establishing a commercially feasible method of rearing sponges. It has been found that cuttings of about one cubic inch will in eighteen months attain a marketable size under artificial conditions, and that such sponges possess a conspicuous advantage over those of natural growth in their symmetry, compactness and lack of "root," due to the fact that the cutting is suspended above bottom and not allowed to attach itself to a rocky or coralline support. The nature of the sponge grounds, methods of fishing, and the character of the product, which as seen in commerce is the skeleton of the animal, are illustrated by models. This fishery in the United States is confined to Florida waters.

The oyster is by far the most important single product of the United States fisheries, and owing to the constant demand for it, oyster culture has become a necessity in order to keep up the supply. The natural beds on the Northern Atlantic coast have long since given place to cutlivated grounds, and the former seemingly inexhaustible fisheries of the Chesapeake and South Atlantic and Gulf coasts have declined until this valuable shellfish will soon be entirely dependent upon artificial methods. The exhibit illustrates the anatomy, growth, local and accidental variations, enemies and other features of the life history of the oyster; also some of the methods of oyster culture.

Practically all of the economic marine animals are represented in the exhibit, including clams of several species and other mollusca, also nearly all of the crabs, shrimps, lobsters and related forms which are important as food or are generally employed as bait. Most of the space in the wall cases is devoted to the display of an exhibit prepared by the Rhode Island Commission of Inland Fisheries to illustrate the results of investigation into the biology of various shellfishes conducted by that Commission in collaboration with the United States Fish Commission. These preparations show the growth of the soft clam, scallop, oyster, lobster and the starfish, one of the most destructive enemies of the oyster, bringing out important facts in their life histories. Lobster development is also especially illustrated by the microscopic preparations on an adjoining table.

One of the most interesting phases of the scientific work of the Commission, and a comparatively new one, is the study of fish diseases, which, especially at fish-cultural stations, often produce serious epidemics. The pollution of streams is also within the scope of this inquiry, and the question of oysters and typhoid fever has recently come up for investigation with reference to certain localities. Typhoid epidemics have been traced to oysters from beds not properly protected from sewage.

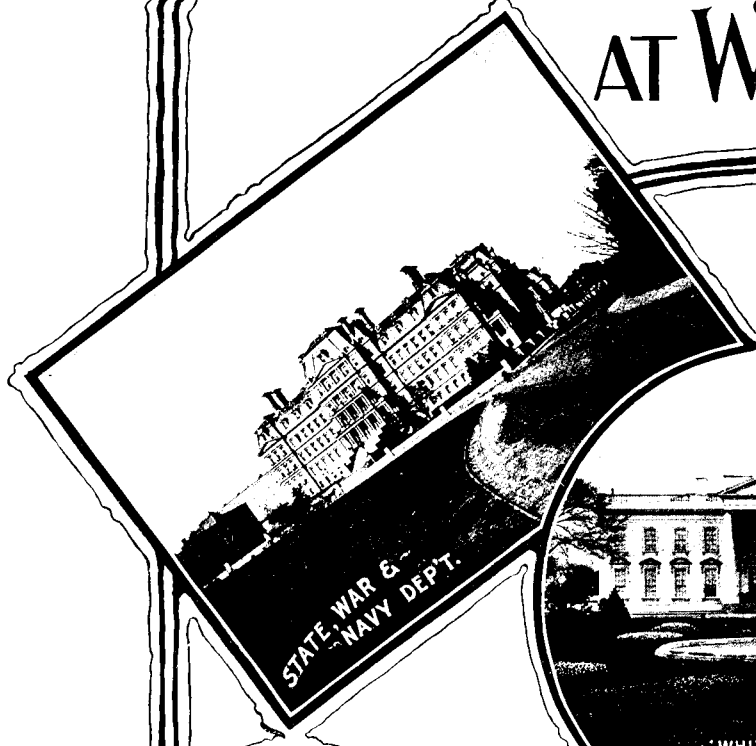
Various pathogenic organisms are shown in this exhibit, one of especial interest being a germ isolated from the blood of the brook trout and found to be responsible for a disease which caused a great mortality at the trout hatcheries of the Commission during several seasons. This bacterium has been found only in fishes. Tumors, deformed, wild and domesticated fish, fungused and dying salmon, etc., are shown in pictures; also a disease common in aquaria and known as "pop-eye," which has been found to be due in some instances to an excess of gas in the blood of the fish. Recent investigations developed the fact that the water is often the cause of this trouble, the supply in some cases being naturally, or because of leaky pumps, supersaturated with air, which collects in the blood vessels of the fish with fatal results.

Methods of the fisheries are studied by one division of the Commission, in connection with the collection of statistics showing the extent of the fishing industries; and apparatus and methods used in various branches of the fisheries are displayed in one section of the exhibit.

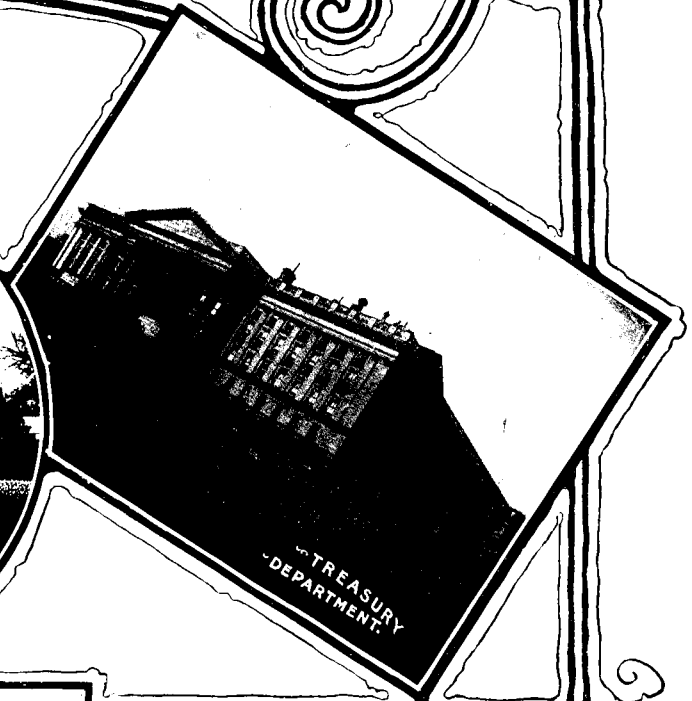
Fishery products occupy an adjacent space. Fish, oysters, lobsters, clams, turtles, shrimps, etc., preserved by canning or by salting, smoking and pickling, are a feature of this section. The fresh-fish industries are illustrated by casts and engravings of the principal food-fishes.

Secondary products are also exhibited, the principal ones being fertilizers, glues, oils, isinglass, etc. Leather made from the skins of various water animals and some fishes; aquatic furs, in their natural state and "plucked and dyed;" seaweed as prepared for market, either for food or fertilizer; and ivory, bone and shell have a place here, being fishery products variously used in the arts and industries. The mussel fishery of inland rivers, supporting the valuable pearl-button industry of the Mississippi Valley is illustrated by the manufactured product of pearl buttons and ornaments, and an attractive display of pearls obtained from the mussel shells.

GOVERNMENT BUILDINGS AT WASHINGTON


STATE, WAR & NAVY DEP'T.


WHITE HOUSE.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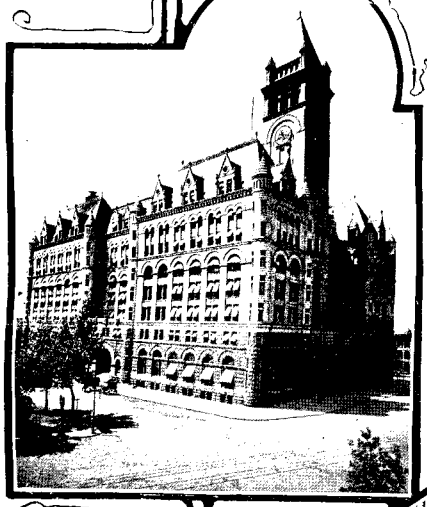
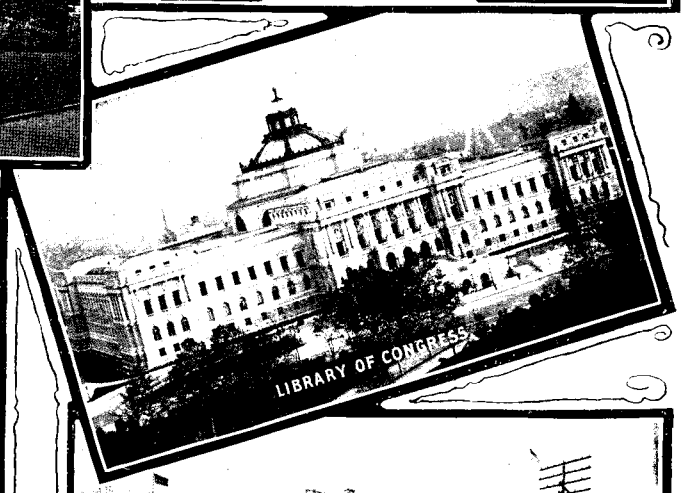


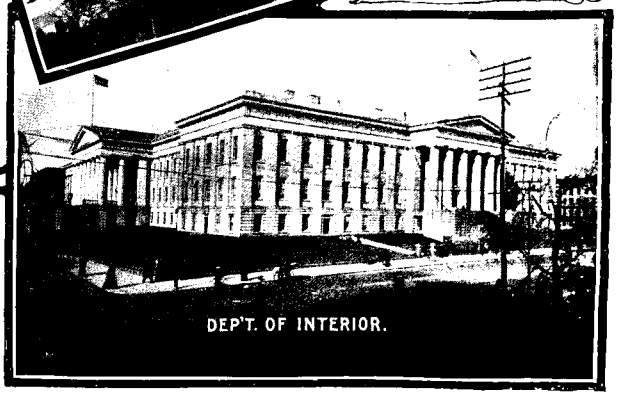

CAPITOL.


AGRICULTURAL DEPARTMENT.


SMITHSONIAN INSTITUTION.


MONUMENT.


LIBRARY OF CONGRESS.


DEP'T. OF INTERIOR.

Outdoor and Special Exhibits of United States Government.

LIFE-SAVING SERVICE BUILDING.

Description.

The Life-Saving Service Building is 69 feet 6 inches by 43 feet, designed in the Spanish Renaissance style. The walls are covered with staff, roofed with red Spanish tile. From about the center of the building a tower for the lookout extends to a height of about 53 feet.

That part of the building containing the living quarters of the crew is entered through an arch surmounted by a cartouche bearing the coat of arms of the Life-Saving Service. On the first floor of this portion of the building will be found the Keeper's room, mess-room, kitchen, etc. The second floor has one large room in which the men sleep.

That portion of the station used for storage of boats and other life-saving apparatus has two large doors opening into the boat run, which is 34 feet by 40 feet, running down into the lake and down which the life-boats are launched.

This boat-room is 33 feet by 42 feet, and in it will be kept all the various types of boats, life-cars, water-guns, buoys, etc., used by the Life-Saving Service in rescuing life and property from the water.

EXHIBITS AND DRILLS, LIFE-SAVING SERVICE.

Treasury Department, W. H. Hills, Representative.

The life-saving station is manned by a keeper and ten surfmen drafted from various stations of the Life-Saving Service, and fully equipped with the life-saving appliances used in the Service, and the necessary furniture and appointments for the residence and subsistence of the crew, who will carry on their duties at the station precisely as is done at a regular station, so far as the surroundings will permit.

Exhibition drills are given at stated times showing in a realistic manner the rescue of shipwrecked people from a wreck by the breeches buoy, life car and surfboat, the resuscitation of apparently drowned people, the capsizing and self-righting of the lifeboat, manner of handling the surfboat with oars, and other drills of the Service.

Included in the outfit of the station are:—

A 34-foot power self-righting and self-bailing lifeboat.

A 26-foot self-righting and self-bailing lifeboat.

A Beebe-McLellan self-bailing surfboat with waterballast, centerboard, sails, etc.

A life skiff, such as is used at the Falls of the Ohio, Louisville, Ky.

A McLellan Beach Apparatus Carriage (4 wheels), carrying the gear necessary to make communication with a wreck and land the shipwrecked crew.

A beach cart (2 wheels), carrying the gear necessary to make communication with a wreck and land the shipwrecked crew.

A McLellan boat wagon used for transporting the surfboat from the station to the vicinity of the wreck.

A life car, used for landing women and children from a shipwreck.

Breeches buoys, used for landing shipwrecked crews.

The first life car, mortar and ball used in the Service for saving life, on which occasion 201 lives were saved from the English ship "Ayrshire" on the New Jersey coast in December, 1851.

A collection of projectiles which have been used at wrecks when many lives were saved.

Various guns and rockets used by the United States and foreign governments in their life-saving services for making communications with wrecks by lines.

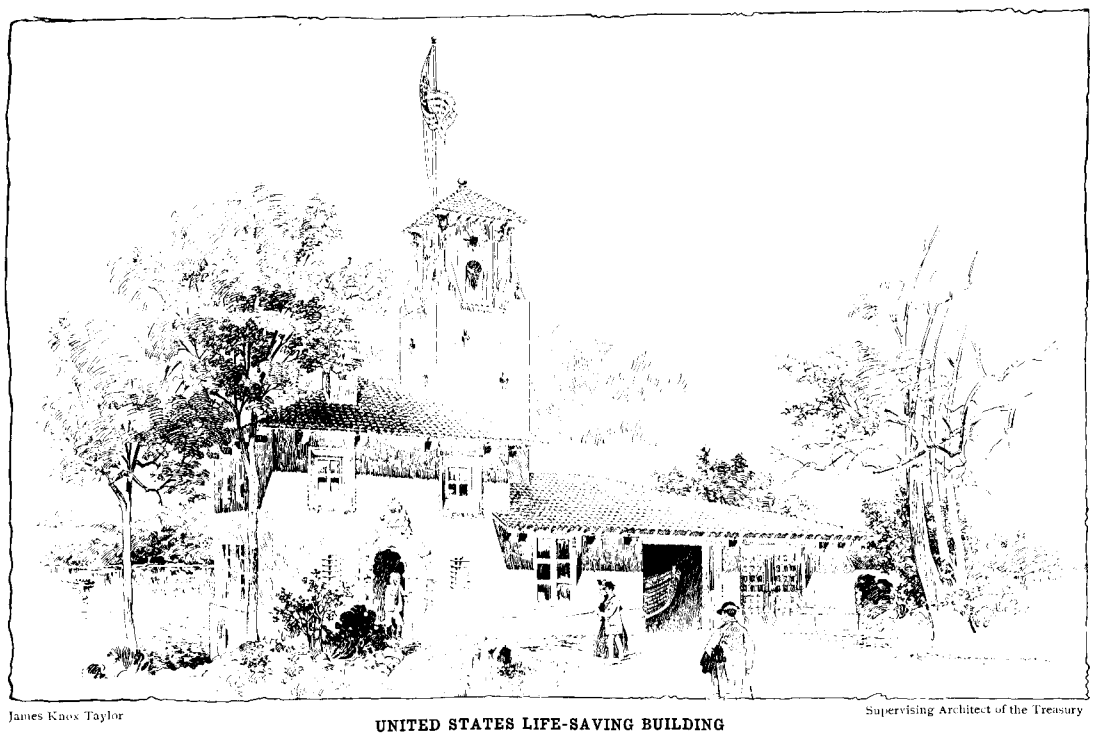
The patrol system of the Life-Saving Service, fully illustrated, with Coston signals, checks and time clocks, which insure the proper performance of the beach patrol.

Twelve oil paintings in black and white, illustrating the work of surfmen of the Service.

HEAVY ORDNANCE EXHIBIT.

War Department, John D. Scofield, Representative.

This portion of the exhibit of the ordnance department of the Army is located outside of the Government Building and is intended to represent the armaments employed in siege and seacoast fortifications.



James Knox Taylor — UNITED STATES LIFE-SAVING BUILDING — Supervising Architect of the Treasury

SIEGE CANNON AND CARRIAGES.

Side by side are a 7-inch breech-loading howitzer and a 7-inch breech-loading mortar, the former mounted on its carriage and representing a type of cannon used in siege operations against fortified places, and the latter being used exclusively for vertical or high-angle firing, and during firing is concealed behind ramparts or other protection. Near both the cannon and the mortar are the various accessories used in manipulating and firing them, as well as samples of the several kinds of projectiles and simulated powder charges used with each.

SEACOAST CANNON AND CARRIAGES.

The series of these cannon include the following:

A 12-inch breech-loading mortar mounted on its carriage. In service it is used for attacking ships-of-war, at anchor or in motion, at ranges between 3,000 and 12,000 yards. There are grouped about the mortar projectiles representing each of the three kinds used with it, namely, the cast-iron, the deck-piercing and the torpedo shell. Simulated powder charges used for the various ranges are also shown.

A 15-pounder rapid-fire gun mounted on a barbette carriage. It is used in seacoast defenses for attacking the superstructure of ships and protecting submarine mines planted in its vicinity. The ammunition used is of the type where separate loading of the projectile does not take place. The carriage is furnished with a shield to protect the gunners from projectiles fired by guns of small caliber. Arranged about the gun are the accessories for manipulating and firing it, as well as samples of each kind of fixed ammunition used in it.

A 6-inch rapid-fire gun, mounted on a barbette carriage, provided with gunners' shield. Samples of each kind of projectile and simulated charges of smokeless powder are also shown.

A 6-inch rapid-fire gun, mounted on a disappearing carriage, placed behind ramparts and raised for firing. The accessories used in manipulating and firing it are shown on its platform.

A 12-inch breech-loading rifle, mounted on a disappearing carriage—the principal feature of this exhibit—being the most modern and powerful gun of its type. Arranged about the gun and its carriage are the various accessories used in manipulating and firing it, as well as the ammunition and simulated smokeless charges used in it.

ACCESSORIES FOR CONTROLLING THE FIRE OF SEACOAST GUNS.

As military weapons, these guns and carriages, despite their great interest as mechanical objects, are dependent upon the means adopted to control their firing. To illustrate the methods in service for obtaining the ranges of the objects fired at and to enable fire control to be secured, there are exhibited the important instruments known as the Swasey depression range finder (2 of which are shown), the Whistler plotting board, and the Pratt ballistic board, the uses of which are demonstrated to visitors.

BRIGADE FIELD HOSPITAL.

War Department, John C Scofield, Representative.

The exhibit of the medical department of the Army consists of a brigade field hospital, in every way complete, located outside of the Government Building on the Exposition grounds.

The hospital wards consist of 18 tents arranged in groups of three, making 6 wards of 18 beds each,

and are equipped with the new regulation field furniture and bedding. The dining tent is equipped with the folding field furniture and the new mess chest; and the cook tent is furnished with water-sterilizing outfit for supplying potable water, and with the food chest and large field range. All of these chests are displayed unpacked for use and packed for shipment, and their adaptability for rapid movement in the field demonstrated.

The equipment of the dispensary tent consists of 2 medical chests, 2 detached service chests, microscope and accessories, and folding field furniture. The medical chests contain a very large assortment of medicines and appliances, and the detached service chests, as their name implies, are for temporary service with a smaller detachment of troops.

The operating tent is furnished with operating table, sterilizer chest, surgical chest, surgical dressings, and necessary field furniture.

There is also an office tent equipped with folding field furniture and the regulation field desk; a store tent, and 10 tents as quarters for officers and men of the Medical Corps connected with the exhibit.

The means of transportation in the Medical Department are represented by a regulation ambulance, a horse travois and hand litters.

Acetylene gas generators are used for furnishing illumination for the hospital at night.

On duty with the exhibit are 1 Sergeant of the first class, 3 Sergeants and 35 privates of the Medical Corps, the number allowed for a brigade field hospital under service conditions.

Daily drills are given by this detail, consisting of first aid to the injured, the application of splints and dressings, means for controlling hemorrhage, and the removal of patients from the field by litter and ambulance.

ARMY TRANSPORTATION EXHIBIT.

War Department, John C. Scofield, Representative.

In addition to the exhibit of the quartermaster's department exhibit of the War Department in the Government Building, there is located outside of the Building, the following collection of United States Army wagons:

General Thomas' old wagon, used by him throughout the Civil War. A two-horse vehicle constructed so as to admit of its use for office work at headquarters in the field, the sides being arranged to permit of their being dropped and utilized as desks, and the body fitted with pigeon-holes and other fixtures similar to a field desk.

A six-mule Army wagon, heavily constructed. This wagon was used during the Civil War from 1861 to 1863 in the Army of the Potomac, traveling 4160 miles through all the campaigns and marches of General Sherman's army.

Army wagons of the type now in service are represented by a six-mule, an escort, and a Dougherty spring wagon.

MODEL CAMP OF UNITED STATES MARINES.

Navy Department, Benjamin F. Peters, Representative.

The United States Marine Corps, one of the coordinate branches of the military forces of the nation, which was organized in 1775, and has participated in all of the glorious victories of American arms on the seas and ashore, is represented at the Exposition by a model camp, designated "Camp Elliott," located northeast of the Exposition Palace of Liberal Arts. Here are encamped 200 enlisted men under the command of Major James E. Mahoney, United States Marine Corps, and as far as conditions permit the life in the field is represented, including a regular daily routine and drill of the Marine Corps. These Marines are also regularly detailed to guard duty in the Government Building, in which have been installed certain supplementary exhibits of this service.

FOREST EXHIBIT OF THE BUREAU OF FORESTRY.

Department of Agriculture,

Joseph H. Brigham, Representative.

The indoor display of this Bureau is separated from the general Government exhibit and placed in the Forestry, Fish and Game Building, because of its intimate relation to the lumber industry, the exhibition of which is centered in that building.

The exhibits of the Bureau of Forestry appear in the following two separate locations:

(1) In Forestry, Fish and Game Building

a. One hundred and fifty large photographic transparencies, illustrating every phase of forestry, are displayed in an arcade 87 feet long by 16 feet wide. Typical forests, timber trees, and forest conditions of the United States are shown as they exist; also the cutting of timber forests, their renewal, damage done to them by fire, insects, overgrazing, and by torrents. Forest planting is shown, as are plantations in treeless regions and where forests have been destroyed. The transparencies are seen from the inside of the arcade, where eastern and western forest problems and scenes are shown on opposite walls, illuminated by natural light.

b. Supplementing the transparencies are seventy-five large colored bromide photographs, framed in the outside of the balustrade that surrounds the arcade. These illustrate every feature of forestry and forest work carried on by the Bureau of Forestry.

c. Within the balustrade are shown the most important phases of the Bureau's field investigations. A large case contains Longleaf Pine trunks arranged to show the advantages of a new system of turpentining devised by the Bureau, and the disadvantages and injurious effects of the old system of boxing. In another case the various instruments used in forest work are displayed. Two other cases exhibit injurious insects and examples of their destructive work. The methods and results of testing the strength of commercial timbers are shown by a testing machine, charts, and tested pieces of timber. On a relief map of the United States is shown the distribution and character of the forests of the country, the location and extent of National and State forest reserves, and locations where, under the direction of the Bureau of Forestry, practical forest management and tree planting are being carried on. On another relief map is shown the location of the proposed Appalachian Forest Reserve and the extent and character of forest and other lands included. A column 24 feet high exhibits graphically the amount and value of commercial lumber produced in the United States.

The various publications of the Bureau of Forestry are shown in a cabinet placed in the balustrade.

(2) The Bureau's method of forest planting on farms and its forest nursery practice are shown on a tract of two and a half acres, about 150 yards southwest of the Forestry, Fish and Game Building. The central feature of this exhibit is a representation (scale one-tenth of the actual lineal dimensions) of a quarter section of prairie land, laid off into fields, farm-house lot, etc., with trees planted along the fence lines for wind-breaks, and in various other ways to show model forest plantations in a treeless country.

OUT-DOOR EXHIBIT OF BUREAU OF PLANT INDUSTRY.

Dept. of Agriculture, Joseph H. Brigham, Representative.

The out-door exhibit of the Bureau of Plant Industry occupies about seven and one-half acres of land on the sloping hillside facing the Agricultural Building. This area is nearly square, and in its center is laid out a large map of the United States more than 550 feet in length. State boundaries are indicated by paths, from which visitors may study the exhibit. In each State are planted the leading crops it produces on areas proportional to the areas these crops actually occupy in the State. This gives, in effect, a bird's-eye view of the chief crop productions of the entire country.

The land lying outside the boundaries of the map of the United States is occupied by exhibits illustrating the special lines of investigation of the different offices composing the Bureau.

PATHOLOGICAL AND PHYSIOLOGICAL INVESTIGATIONS

An exhibit designed to show some of the more important diseases of the principal orchard and truck crops and the methods of their treatment has been prepared. Plats of young fruit trees, vegetables, and other crops, one-half of which have been treated by spraying for the prevention of diseases, demonstrate the beneficial effects of such treatment. Certain plats are devoted to the growth of leguminous crops, with a view to showing the effect of inoculating such crops with bacteria, in order to enable them to secure atmospheric nitrogen. In a small structure erected on one of the plats are grown various legumes and other plants in pots containing known quantities of nutrient salts to demonstrate the importance in crop production of an adequate nitrogen supply, and also to show the relation between bacteria securing nitrogen from the air, and the use of nitrogenous fertilizers.

The exhibit of the Plant-Breeding Laboratory consists of a demonstration by means of cotton and corn plants of some of the results obtained by the practice of plant-breeding methods.

Rows of Sea Island and ordinary Upland short-staple cotton plants illustrate the parent types. Following these is a row each of first, second, third, fourth and fifth generation plants. The first generation plants exhibit characters intermediate between the parents. The second generation plants show the great degree of variation that is common in this generation; while later generations show the gradual progress to a fixed type due to strict selection of type. A row of select Ashmouni Egyptian cotton and another of a fifth generation hybrid of Sea Island X Ashmouni Egyptian cotton are grown.

Dissimilar types of corn that have been used in hybridization work are grown in rows by the side of first and later generations of the hybrids. Increased vigor of stalk and blending of stalk characters of sweet and starch corn can be noticed as the results of hybridization. Peculiar strains of dwarf corn, broad-leaved corn, etc., produced by selection, are growing side by side with the original types first made. One row of Blount's Prolific corn presents the effect of one year's breeding for increased number of ears per stalk; a second, one year's breeding for increased number of suckers; and the third, one year's breeding for decreased number of suckers.

Rows of pod corn, teosinte, and Mais de Coyote (a hybrid of teosinte and ordinary corn) are also grown.

GRASS AND FORAGE PLANT INVESTIGATIONS.

This exhibit consists of two or three hundred small plats in which are growing the most important grasses, legumes and other forage plants used for meadows and pastures, for renovating worn-out ranges, for soiling, silage, and fodder crops, and for green manuring. Lawn grasses and mixtures adapted to different conditions, as well as ornamental grasses and species used in binding shifting sands, are also shown, the latter on a miniature sand dune.

CEREAL INVESTIGATIONS.

The cereal exhibit is chiefly a living representation of the different classes of cultivated grains arranged in a logical order, showing the actual characteristics and manner of growth of a number of the principal varieties of each class. Within each class there is also, so far as possible, a secondary arrangement of varieties according to the country to which they are best adapted.

SEED-PRODUCTION INVESTIGATIONS.

Large plats are shown with different grades of commercial grass and clover seeds to show the difference in crop return when high and low-grade seeds are used. Small plats contain weed plants whose seed are most frequently found in commercial seeds.

FIBER-PLANT INVESTIGATIONS.

Here are growing all of the plants used in the production of fibers now found in commercial quantities on the market in this country. There are specimens of abacá from the Philippines, henequen from Yucatan, palma istle and lechuguilla istle from Mexico, fiber plants from New Zealand and Mauritius; also flax, hemp, jute and ramie, and the typical kinds of cotton grown in this country, in Egypt, and in India.

DRUG AND MEDICINAL PLANT INVESTIGATIONS.

About forty-five representative drug plants are arranged in a natural sequence, beginning with the lowest orders and running in the numbering of the labels through the flowering plants to the highest types. The order is that of Engler and Prantl. Not only the common and botanical names, but also the physiological properties are indicated on the labels.

POISONOUS-PLANT INVESTIGATIONS.

This exhibit includes many plants known to have a poisonous action on live stock and on human beings, the labels indicating the noxious characters of the plant. Common poisonous weeds, some ornamental plants, and the principal stock-poisoning plants of the cattle ranges are represented.

SCHOOL GARDENS.

The school garden exhibit, located in the northeast corner of the grounds occupied by the Bureau of Plant Industry, has for its object the carrying on of children's gardens, which it is hoped will help forward the movement looking towards the teaching of agriculture in schools.

Thirty model gardens will be cared for by some of the children from the schools of St. Louis under the direction of an experienced teacher. Daily exhibitions are given.

Teachers interested in nature study can learn practical methods here which they can introduce into their own schools, helping to make primary education more practical and helpful.

Observation plats comprising the principal agricultural crops have been planted on the grounds. Wild plants have been used for decorative purposes, showing their appropriateness for ornamenting school grounds.

ELECTRICAL LABORATORY OF BUREAU OF STANDARDS.

Department of Commerce and Labor.
Carroll D. Wright, Representative.

A portion of the exhibit of the Bureau of Standards consists of a testing laboratory, located in the Palace of Electricity, at which may be seen the work of the more important electrical testing in actual operation.

AVIARY OF THE NATIONAL ZOÖLOGICAL PARK.

Smithsonian Institution, Frederick W. True, Representative.

At previous Expositions the National Zoölogical Park has contented itself with a display of models and pictures, but at this Exposition it has erected a very large cage for birds, in which they can fly about at will. The cage is 168 feet long, 88 feet wide and 45 feet high, and is located near the west end of the Government Building. In it are placed about 1000 birds notable for their brilliant colors, sweet songs or peculiar forms, including many characteristic birds of North America and the tropics. The cage encloses trees and shrubs, pools and running streams, where the perching birds find shelter and the aquatic birds proper exercise.

EXHIBIT OF AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

A. C. True, Representative.

By special enactment of Congress, an exhibit has been made, under the direction of the Government Board, from the agricultural colleges and experiment stations receiving benefits from the Government. This exhibit, a full description of which will be printed in the next issue of this GUIDE, is located mainly in the Exposition Palace of Education. In a separate pavilion is the portion of the exhibit representing animal husbandry. The exhibit as a whole is intended to show the progress of education and experimentation in agriculture, mechanic arts, and animal husbandry.

McKinley in the Cabinet Room.

By Charles Emory Smith. (Former Postmaster-General.)

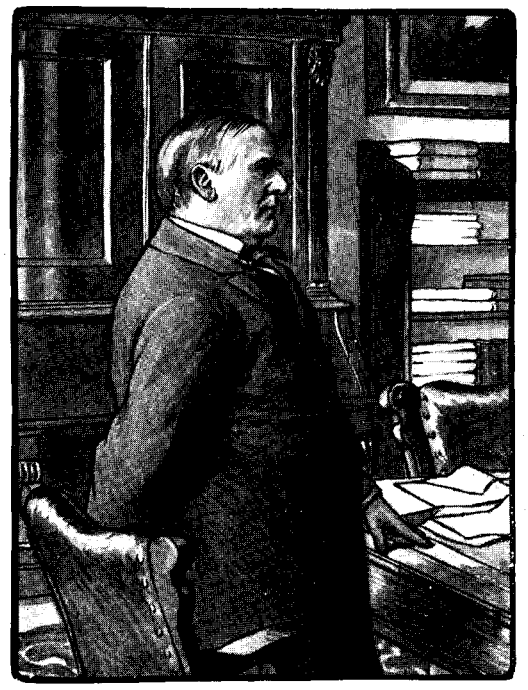
President McKinley's life was so open, he was so much a man of the people, that no American was better known to his countrymen. He himself was unequaled in his popular sympathies. In turn, the popular instinct quickly grasped and thoroughly understood his personality. He knew beyond any other leader of his time the mind and heart, the nature and impulse, of the American people. Through the same sympathetic chord the people came to know his character and qualities, his very being, better than that of any other man in public life. There was nothing inscrutable about him. He was frank, open, candid and sincere. There was reserve where reserve was needful for public purposes, but not reserve through lack of unison and fellowship. He was essentially the American people incarnate, and they instinctively knew their own. It would be impossible to give them a new view of what they so well understood. It is only possible to illustrate, exemplify and add details.

MCKINLEY'S RESEMBLANCE TO NAPOLEON AND WEBSTER.

His very appearance and bearing were singularly winsome. He had a nobility of head and feature that impressed every observer. His clean-cut face, with smooth, ungraven fullness but strong, classic lines; his high, full brow; his big, dark, liquid eyes and arched, finely-shaped nose; his mobile lips and forceful chin, and over all a blended kindliness and strength of expression gave him a distinctive and kingly mien. It was the common saying that he looked like Napoleon. His profile bore some resemblance to the great warrior, but there was another likeness which to the close observer was quite as striking. Watch him as he sat at the head of the Cabinet table with his face turned to one side and scan his outline as it was limned against the Southern light within the windowed perspective of the Potomac, and you would be reminded of the massive, overhanging brow and deep, cavernous eyes of Daniel Webster.

Among the portraits of Presidents arrayed on the wall of the Cabinet room or the corridor are not many of high mark. The majesty of Washington and the gaunt ruggedness of Lincoln stand out. The scholarly air of John Quincy Adams and the narrow but forceful lines of Jackson are notable. If distinction is stamped on the outward mould, McKinley will always be conspicuous in the national portrait gallery. He bore the impress of his nobility in every lineament and movement. In his manner and in his carriage there was a union of natural grace and dignity which peculiarly befitted the highest walk. Though not born to the purple, he had the inbred bearing of a chief. Without any assumption, with the most simple, unaffected ease, he looked and acted the President.

His appearance bespoke his nature. He was the most engaging of men in public life and the most lovable in private life. No one came into his presence without feeling the irresistible attraction. He delighted in making others happy. He would sit up long after hours on a railroad journey rather than disappoint an expectant crowd at a station. He had the sunniest disposition and the most equable temper. In the great stream of visitors that the President is compelled to see every day, every man is deeply earnest on the subject that



brings him there, and the one who receives the successive hundreds is taxed with all their joint intensity. It is rather consoling to other mortals to know that President McKinley was human enough to feel the strain and to be sometimes a little restive under it, but he never became impatient or irritable. He had the most complete control of himself, and was the very embodiment of serene and unruffled good nature.

HIS GRACIOUS DIGNITY OF MANNER.

He was always calm, self-poised and deliberate. His manner was full of gentleness and his talk full of courtesy and sympathy. His voice, which matched his kindly nature, was rich and melodious, in conversation soft and mellow, in public speech clear, musical and resonant, with extraordinary carrying power. He pondered deeply on the great problems and the perplexing personal issues which confronted him, but he did not fret or worry. He was tranquil and confident even in the midst of the storm. He slept well, with good digestion and facile handling of his work. This left him fresh, healthy and glowing. The equipoise and sobriety of his mind were reflected in the ease and composure of his perfect manner, which never failed in unstudied grace, and even the casual meeting made the impression of the masterful man and the true gentleman.

He was the most thoughtful and considerate of men. He always studied the comfort and feeling of all about him. No little attention that he could offer was overlooked or omitted. It was as natural for him to send the child that was ushered into his presence away with the treasured carnation as it was to stop and give his boutonnière to the proud engineer of his special train. In any company he was the most attentive, the most watchful and the most gracious. The sweet, vigilant and chivalrous devotion of his tender domestic life had only deepened and broadened what was inherent in his nature, and he was ever the most observant of all that could contribute to the pleasure and the welfare of those in whom he was interested.

At the Cabinet table he was suggestive, fertile and wise. Sometimes he led discussion; quite as often he first elicited the views of his counselors. He recognized and treated his Cabinet as advisers in the fullest sense of the word, not as mere recorders and executives of his will. He sought and respected their independent judgment. It was quite his habit with them as with others to draw out their opinion before he had indicated his own, so that he secured their unbiased expression. He was receptive and responsive, but not pliant. He accorded full weight to all that was said, but he formed his own convictions. No man was more judicial and sane in summing varied views and deducing the wisest conclusion.

His pre-eminence in the council was unchallenged. There were strong and able men at the board. There were men who were the superiors of the President in some particulars. There were better trained lawyers. There were finer scholars with a wider range of reading. There were men of greater practical experience in large business affairs. But there was not a man among them who did not feel that in all the essential elements of greatness the President was the greatest man there. Where MacGregor sat was the head of the table, not merely because he was first in rank, but because in broad statesmanship, in political genius, in sure prescience, in mastery of men and measures he was easily the foremost of all.

There is no surer test of his ascendancy. Mediocre men sometimes achieve large results through adventitious circumstances. Monroe was common-

place enough, but by the accident of his time he is immortalized as the author of the Doctrine which has become the governing law of the American continent. But no man can pass four years in dealing with great and novel questions and all forms of complications, in the daily presence of acute and experienced men who see not only the result but the process, and come out with their profound recognition and reverence, without possession of the highest attributes.

HIS METHODS OF WORK AND PREPARATION.

President McKinley towered over all the men of his time in the art of doing things. In every difficulty he knew better than anybody else what to do and how to do it. His consummate tact was more than the manner of dealing with men—it was the method of dealing with things. If there was any troublesome knot he would instinctively see the way to untie it. If any member of the Cabinet was perplexed and embarrassed by the complications which sometimes came in personal claim or in administrative problem, the President was likely to find the best solution. His superior skill was an unfailing resource. Whether with a legislative tangle or a popular misunderstanding or a personal difference he was the most deft in handling it. He was the best politician of his day, and one of the best the country has ever known, both in the higher realm of understanding and leading the people, and in the lesser field of managing individuals.

President McKinley had a keen sense of humor. His social traits were very marked, and he had great fondness for the freedom and the joys of social intercourse. He loved to be among his friends and to abandon himself to the relaxation and exhilaration of unrestrained communion with those he trusted. At such times he was the life of the company. His talk sparkled with fun and interest.

His varied experience had been filled with entertaining incidents which were stored away in his retentive memory. His long association with the foremost public men had given him a fund of anecdote. His political campaigns which had brought him face to face with more people than any other man of his time had been signalized by many interesting episodes. On these he could draw at will. He had excellent faculty in telling a story or narrating an occurrence. He would often open a Cabinet meeting before settling down to business by recounting some little chapter of his army or political life which was recalled by the suggestion of the hour.

His sense of humor took various forms. It was sometimes subtle, sometimes open, sometimes exuberant. It was often a treat to see how, with perfectly serious look, not a suggestion of a smile, not a muscle of his face quivering, he would prick a hollow argument or claim with an ironical statement of its extreme development. He could never be otherwise than kindly, but he had a power of genial satire that would not be suspected by the chance acquaintance. He would sometimes dispose of an impossible demand by turning it, with the utmost gravity of countenance, into an absurdity which the author himself could not fail to perceive. In this keen method of dealing with the impracticable, which was a mingling of badinage and suavity, he was unequaled.

THE PRESIDENT'S GENIAL BADINAGE.

In the lighter and gayer humor he had a deft touch. Judge Day, after his splendid service as Assistant Secretary and Secretary of State, had been appointed President of the Peace Commission that was about to leave for Paris and was attending his last Cabinet session. For eighteen months he had really managed the State Department under trying conditions with signal skill and judgment. He had been the life-long neighbor and intimate friend of the President, who knew his great capabilities and had called him from his vicinage to high responsibilities.

In that closing hour of his Cabinet service there were mutual expressions of good will and of regret at the coming separation. Judge Day was not without his facetious vein. In a playful spirit he proffered his sympathies to his associates who were about to lose his counsel, and, the most modest of men as he was and is, remarked that he didn't know how they were going to get along without him. "Well," said the President, with that most serious aspect which he put on when he was most in fun, "as every change in the Cabinet has been an improvement, perhaps we can stand it." The tables were turned on Judge Day, and no one joined in the laugh more heartily than he did. The two devoted and admiring friends could safely chaff each other.

When the time came for the final instructions to the Peace Commission, then engaged in its negotiations at Paris, as to whether it should demand from Spain the cession of the whole Philippine Archipelago or only a part, the discussion in the Cabinet was long and earnest. There was a full appreciation of all the grave issues involved. Every member expressed his views freely and unreservedly. When it came the turn of Secretary Wilson to give his counsel he spoke with his accustomed energy and even more than his accustomed seriousness. He was one of the most positive expansionists in the Cabinet. He made a forceful and cogent argument in favor of keeping the whole of the Philippines.

As he finished, the President, who like the others around the table had listened with silence and deep attention, quietly remarked: "I should have expected that argument from you. I have observed that you Scotch Presbyterians believe in keeping the Sabbath and everything else you can lay your hands on." As he was himself of Scotch origin, he could well afford the jest.

It was with such touches of humor that he relieved the intense strain of the tremendous questions and the serious discussions that preoccupied him. On another occasion there was a most interesting incident which illustrated another side of his character. A Federal officer had issued a public paper in which he reflected on the Administration. It was a foolish and unwarranted criticism. The question came up as to whether he should be disciplined. The President had not known of the paper and asked to see it. On glancing over it, he said: "I don't know but this officer is directly criticising me, and you had better leave the paper and let me examine it more closely." "And, Mr. President, if you find he is criticising you, what will you do?" "I will forgive him," was the President's immediate and calm answer. It was characteristic of his broad and generous nature.

He did not cherish animosities and resentments. In political rivalries he had no bitterness of feeling. His warm personal friends were found in the ranks of all parties. He was exceedingly tolerant of differences and of opposition, and he was ever ready to forgive and overlook even personal hostility which was not malicious. It would be a mistake, however, to infer that he did not have clear insight into men's motives and strong feeling against malevolent and mischievous antagonism. He was good, but he was righteously human.

Every man with red blood in his own veins is glad to think that Washington, serene, placid and awesome as he was, had the passions of our kind. We recall with unalloyed satisfaction the human and glorious spirit which blazed out from his flashing eye when he poured forth his just wrath on the false heart of Charles Lee in the hot day of Monmouth. So President McKinley, with all his equanimity of temper and all his beauty of disposition, was keenly sensitive to deceptive pretense and justly indignant at malign hostility. He knew how to restrain himself, and when and where to strike. If he did not always betray his feelings he did not conceal them from his trusted friends, and his shrewd and caustic comments on envenomed misrepresentation and on perverse wickedness added piquancy to many a talk. Yet it remains true that his prevailing note was altogether kindly, that he always took the generous and considerate view where it was admissible, that he was ever ready to give a hand even to those who had wronged him, and that he had nothing of the virulent and implacable spirit.

SOME TRYING WEEKS BEFORE THE WAR.

The real strength of character and high moral purpose which underlay his amiable manner and his good humor were shown in the resolute and courageous firmness with which he restrained and held back the war impulse of Congress and the country. In the progress of the race through doubt and struggle there have been few finer exhibitions of individual power and moral heroism. Congress was bent on war with Spain. The country was inflamed with passion. The atrocities in Cuba could no longer be tolerated. The destruction of the Maine had set the national blood on fire. But for the unflinching determination of President McKinley war would have been precipitated at once.

It has often been said that his policy was to secure delay until the Government was better prepared for the conflict. Undoubtedly he understood better than an impulsive Congress and an impassioned people the folly of prematurely striking the blow. If war must come it was the part of wisdom to gain time for more adequate equipment. But the President's policy was deeper than mere delay. His great aim was to escape war altogether, and no higher testimony to his true nobility and greatness of soul can be presented than a just appreciation of his attitude in that eventful crisis.

His attitude was stated at the time by the present writer, following full, free talk with the President, in a dispatch which the President, after it was printed, said so accurately reflected his thought that it was among the few things he had put in his scrapbook. Here are two or three salient sentences: "Those who understand the President's spirit and purpose know that he is resolutely determined that war, with all its horrors, shall not be undertaken except for a cause which will commend itself to God and man. He realizes what war means, and he will do his best to save the country from its calamity, unless impelled to it by reasons which will fully justify it in conscience and in history. Such a reason would be the defense of the nation's sacred honor; and as the country may rely that he will resist any clamor for war without the highest sanctification, so it may be equally sure that he will not permit its honor to be sullied. He appreciates the grave character of the emergency, but he is deeply impressed with his duty as President and as a patriot, and he will courageously fulfill it against any effort to precipitate war on the one hand and against any stain on the honor of the Republic, if that remote menace should appear, on the other."

The world knows now, notwithstanding some serious legacies, how much the war added to the glory of the McKinley Administration. It placed that Administration among the greatest in our history and identified it with a new national epoch. Not all of this could be foreseen. But, though much was concealed behind the veil of the future, it was plain in advance that war with Spain would be victorious. No one could presage its swift and amazing success. It might be prolonged and it might have fluctuating fortunes of victory and defeat. But it was certain, with our superior power and resources, to end in the triumph of the United States, and that triumph was sure to bring the release and, if we chose, the acquisition of Cuba.

No man saw this more clearly than President McKinley. Such a prospect of sure distinction would have appealed to the ambition of any statesman and ruler of less moral principle. But the glamor of successful war did not dazzle him. He saw its hardships and sufferings and sacrifices; he knew that while it would bring national and political aggrandizement it would darken many homes with sorrow; he felt that in the high tribunal of conscience and of history it could not be justified if there were any honorable way of avoiding it; and he set his face like flint against it. He intrepidly determined that there should be no war if he could help it.

At the same time he had no thought of abating his personal purpose or the national purpose of relieving Cuba. He had remonstrated against the cumulating horrors of Spanish rule in the island more directly, more vigorously and more menacingly than any of his predecessors. He believed that the cruelty on the one hand and the revolt on the other had gone to such an extent that the only relief and the only outcome must be the practical termination of Spanish control and the practical freedom of Cuba, and he meant to have this result, but he meant to have it, if possible, without war.

And so he stood like a rock while the tempest beat about him. The courage and the firmness of his position in those crucial days could only be appre-

ciated by those who were in daily association. The leaders of Congress urged him to abandon negotiations and accept the appeal to the sword. The public clamor for war grew every day. If he had been simply the flexible follower of popular currents as some described him, he would have taken the easier course and yielded to this sentiment. But he resodutely faced and resisted it, and faithfully continued his effort to stay the clash until he could bring about a situation which would justify the belief that Cuba could be saved without the necessity of war.

How did he hope to do this? He must bring Spain to the necessary concessions. He must induce her practical surrender of Cuba. He must convince the Spanish Government that Cuba was irretrievably lost anyway, and that a recognition of that fact without war was better than a forced acknowledgment with the added blow of bloody and costly defeat. He must gain time to make this plain, to lead the Spanish rulers still further forward in the long advance they had already made, and to permit the intermediate steps which must be taken in order to carry the acquiescence of their own people before the final and absolute relinquishment of Spanish authority.

AN UNPUBLISHED CHAPTER OF DIPLOMACY.

How earnestly President McKinley labored in this direction and how much he actually did is known through the public history of those days and through the diplomatic correspondence which was long afterward given out. While pressing preparations for the most untoward contingency, he left nothing undone at Washington to temper Congress and to calm the country. On the other hand, he did all that was within his power at Madrid, through General Woodford, our accomplished and skillful Minister, to bring the Spanish Government to such liberal and advanced measures as would avert the necessity of armed intervention. But some features of the President's plan and some methods he contemplated for its promotion have never been published.

One day, some six weeks or more before the declaration of war, he was talking on the subject in the Cabinet room with a friend who had been sent for. The talk on his part was earnest, impressive and weighty. He dwelt upon his profound anxiety to reach a peaceful solution of the controversy with Spain. He referred to the imminent risk that war would be needlessly precipitated; to the fact that the temper of Congress and the country was ripe for it; that it was easy to plunge into war with the consciousness of our overwhelming power; that, however sure of success in the end, it would have its vicissitudes and its sacrifices; and that, at the best, war was an evil which ought to be averted if possible. He was, he said, doing all he could to that end. It was a difficult and perplexing task, but his duty was clear. He had faith that if sufficient time could be gained peace might be preserved with honor. He knew that this involved the withdrawal of Spain from Cuba, but if the question were rightly handled and full opportunity for negotiations secured he felt that this result might be obtained. If the two Governments could fully understand each other, if the Queen Regent and her Ministers knew exactly what was in his mind and heart, he believed that a course could be mapped out which would meet the requirements of the United States, which Spain, having already advanced so far, might bring herself to accept and which might then assure peace.

To accomplish this it was essential to have the most perfect understanding. General Woodford was doing exceedingly well at Madrid. He was fulfilling his difficult mission with fidelity and sagacity. But he had been away many months, during which the situation had greatly changed, and *no amount* of writing could convey all that ought to be said. If some one could now go to Madrid, possessed of all the latest information and thoroughly conversant with the President's thoughts, wishes and purposes, and could co-operate with General Woodford, it would be a source of help and strength to him. If such a person could impart to the Queen Regent and her Ministers full knowledge of the exact situation in this country and an accurate understanding of the true spirit, hopes and aspirations of the President, it would aid them in reaching wise conclusions and be conducive to the great object of peace. For these reasons, added the President, he was meditating the sending of a special envoy.

It was suggested to him that the rôle of such an envoy would be exceedingly delicate and difficult. He could only supplement and second the regular Minister. The President replied that he understood this, and, of course, he had carefully considered every phase of the proposal. Finally, as he had seemed to invite discussion, he was asked if he had any man in view for the undertaking. "Yes," deliberately answered the President; "he is now in this room." There were only two men in the room besides the President. One of them was Senator Hanna, and in the nature of the case, with his duties in the Senate, he could not be meant. It was plain that the President meant the other, and the surprising announcement explained why he had been summoned and why the President's thought had been unfolded as it was.

It was unnecessary to follow the interview any further. It need only be added that, after taking time for consideration, the friend found himself unable for personal reasons to go; that events hastened rapidly to a culmination; that no person went, and that any such mission would, as it turned out, probably have been futile. The incident, which has hitherto been known only to the immediate participants and one or two others, has no importance or significance except for two reasons, which are the only reasons for mentioning it.

The first is that it shows how deeply earnest the President was for a peaceful solution and how far he had worked out plans to that end. In determining to send a special envoy to support and reenforce the regularly accredited representative with the freshest embodiment of the President's aim and argument, he demonstrated that he was unwilling to miss any opportunity of promoting the cause he had so much at heart. This plan he did not proclaim. It would have become known only when it had actually been undertaken. He had thought out his whole scheme, and, while it involved a little time, it was entirely harmonious with the American sentiment for the freedom of Cuba. If Congress and the country had not been in such a fever, if the question had been left in his hands, it is probable that peace and liberated Cuba would have been the twin fruits of his policy. Perhaps it is better as it is. There was a destiny awaiting us deeper than any prevision.

The second reason for mentioning the incident is that it illustrates President McKinley's methods. He did not disclose his immediate purpose at first. Before showing his hand he unfolded the length and breadth of the plan that lay behind. He meant that its full scope should be grasped before any answer was asked or expected, and he had the further thought that the service requested should present itself so clearly in the form of duty that it could not be declined except for imperative reasons.

MR. MCKINLEY'S RARE SKILL IN LARGE AFFAIRS.

In this art of persuasion he was unequaled. Much of it lay in his own deep sincerity and conviction. He convinced others because he was thoroughly convinced himself. But beyond this substantive foundation he had an extraordinary gift of putting things. His quick perception and his shrewd, saving sense enabled him to present a case in the strongest form and turn every point to his own account.

His power in this direction was proverbial among all about him. He at one time called a business man to Washington to secure his consent to a step which involved a personal sacrifice and which was repugnant to him. After one or two interviews he succeeded, as usual. The shrewd old barber at a neighboring hotel—one of that class who instinctively know all that is going on—saw that the business man had yielded. "The President, he out-talk you," was his comment. "Yes, alas!" admitted the visitor. "The President, he out-talk any man," continued the interlocutor, and it told the whole story.

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(To be Continued.)

WORLD'S FAIR PALACES.

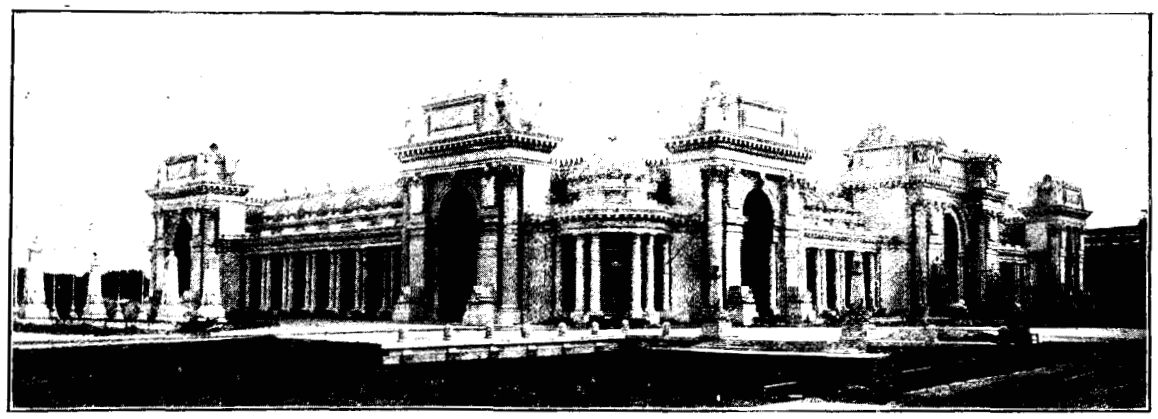
LIBERAL ARTS BUILDING.

The Liberal Arts Building is built of staff. Its contract price was $475,000. Although following the prevailing style of architecture of the Exposition—the Renaissance — it adheres very closely to classic lines. The long facade, especially, shows a magnificent entrance, almost pure Corinthian.

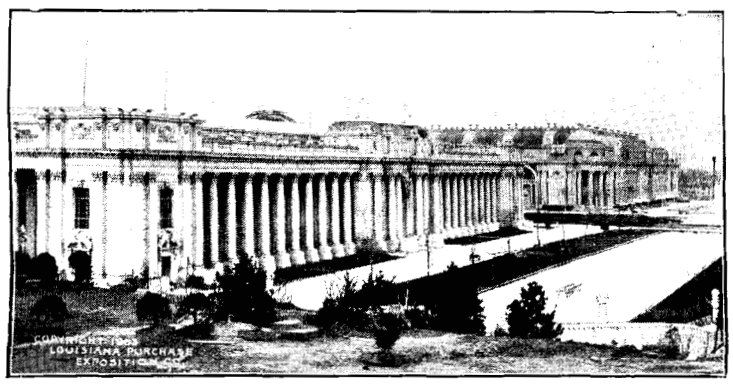
Here is what the architects say of their structure.

"The style of architecture is a severe treatment of the French Renaissance for the exterior facades. In fact, the treatment embodies rather a feeling of the classic than of the Renaissance. It has been the endeavor of the architects to depend largely on sculpture in the decoration of the building, refraining from the over-use of stereotyped architectural ornamentation. The main facade is 750 feet long and is made interesting by the use of a central pavilion and of two end pavilions. The center pavilion is brought somewhat above the connecting buildings which unite it with the pavilions on either side. Each of the three pavilions, on the fronts, forms an elegant entrance to the building.

"On the main facade are three entrances, and on the 525-foot facades are two entrances, one in each of the end pavilions. The main entrance is in the form of a hemi-cycle with circular colonnades. The ceiling of this hemi-cycle is frescoed on a background of old gold. The decorations and ornaments are brought out in relief. In the loggias of the building are mural frescoes on old gold backgrounds, which add subdued color to the picture."



LIBERAL ARTS PALACE



EDUCATION PALACE

VARIED INDUSTRIES BUILDING.

The Varied Industries Building is a magnificent structure on the outer perimeter of the main picture of the Fair. The building presents a facade of 1200 feet on the north and south and 525 feet on the east and west, giving 656,250 feet of exhibition space all on the ground floor. In the center of the north facade is a low dome flanked by towers about 200 feet high. These towering features afford ample space for electrical display and illumination. Numerous entrances are on the facades, exclusive of the main entrance in the center.

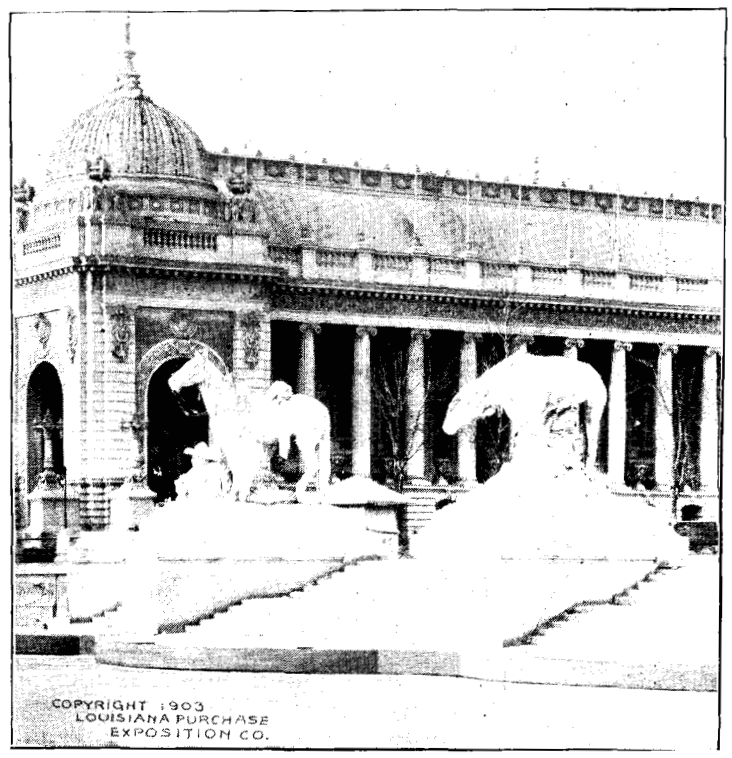
A specially featured entrance is made at the center of the south facade, a magnificent circular colonnade being thrown out in front of it. A considerable portion of one of the two large courts will be taken up with exhibits from Germany. Russia will also make a display in the building. The contract price was about $650,000. It was practically completed on Dedication Day, April 30, 1903, and was occupied by the members of the National Guard who picketed the grounds and participated in the military parade on that occasion.

EDUCATION AND SOCIAL ECONOMY BUILDING.

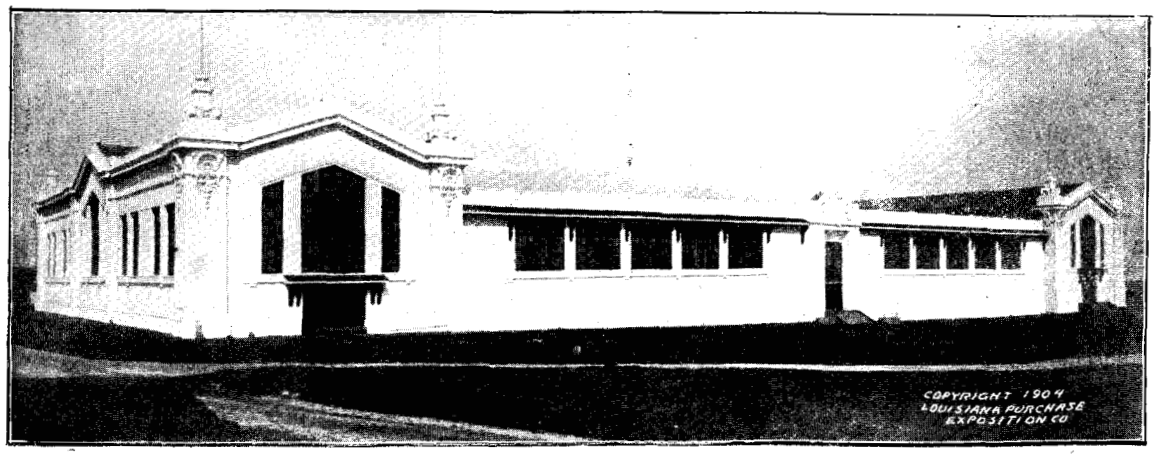
The Education and Social Economy Building is of the Corinthian order of architecture. It is situated to the left of the main lagoon, and this and the Electricity Building are the only two buildings facing the Grand Basin with the cascades and approaches to the terrace crowning the hill on which the Art Building stands. While not the largest in area, its position makes it one of the most conspicuous buildings in what has been called the main picture of the Exposition.

The building fronts 525 feet on the main thoroughfare of the Exposition. The principal entrances are on the axes of the building, and somewhat resemble the well-known form of the triumphal arch. At each angle of the building is a pavilion, forming a supplementary entrance, and these are connected by a colonnade of monumental proportions. The four elevations are similar in character, varying only as required to accommodate the design to the irregular shape of the ground plan. A liberal use of architectural sculpture lends a festal character to the otherwise somewhat severely classical exterior. The screen wall back of the colonnade gives opportunity for a liberal display of color as a background for the classic outlines of the Corinthian columns, affording liberal scope for the mural decoration.

The interior court follows the general outline of the building in form and style, and is laid out in the



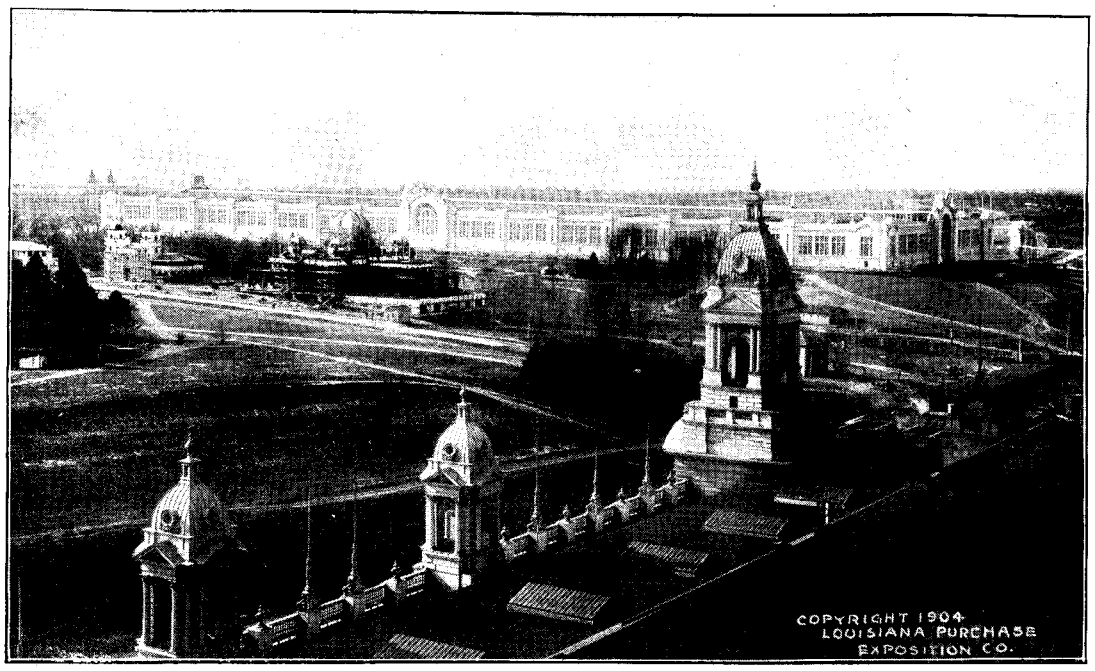
STATUARY AND VARIED INDUSTRIES PALACE



FORESTRY, FISH AND GAME BUILDING

form of a plaisance or garden of a formal type. It is also suggested that this building, the roof of which is practically on a level with the terrace of the Art Building, could be successfully utilized as a promenade, with a roof garden and restaurant attachment.

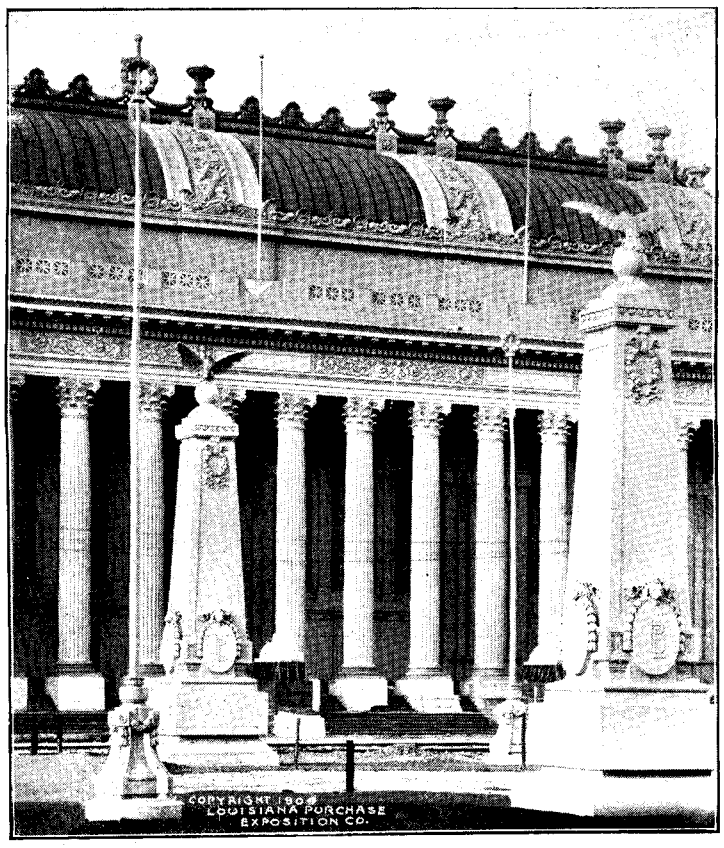
The contract price of the building was $319,309, and it was completed by Dedication Day, was occupied at that time by the U. S. regular troops and later was used as a sculpture shop.



AGRICULTURE PALACE

FORESTRY, FISH AND GAME BUILDING.

The Forestry, Fish and Game Building stands west of the French National reservation, 850 feet west of Skinker road and 100 feet south of Forsythe Avenue. The building is on a terrace 5 feet high, and is reached by broad stretches of ornate stairs on either side. The structure is 300 feet by 600 feet. The cornice line is 58 feet high and the apex of the gables is 74 feet from the ground. There are no towering features. The long facades are broken by gables on the corners and in the centers of the long fronts The gables are flanked by large flag staffs with spreading bases, which serve to elevate the roof line.



DETAIL OF MANUFACTURES BUILDING

As in the palaces of Agriculture and Horticulture which are not included in the fan-shaped central picture, color will be applied in the decoration of the Forestry, Fish and Game Building.

The building is admirably adapted for the purpose for which it is intended. Light is admitted by large windows on all sides, and monitor lights vary the large roof area. Posts and trusses are so arranged that they perform their functions without obstructing the view. The central nave is 85 feet wide, entirely free of posts. Four smaller aisles, two on either side, are 50 feet wide.

The fish tanks are constructed on the east side of the building. These vary in length from 6 to 14 feet. Within the building west of the aquariums is a pool 25 feet wide by 50 feet long, crossed by a rustic bridge. Big fish will swim in the crystal water in the pool, and their movements may be observed from the brdige. West of the pool are four ponds 20 by 60 feet. The banks of these are borderd with masses of rock, stretches of sand and gravel, and aquatic plants, giving them the appearance of natural bodies of water. Wire nettingwill surround and cover two of the ponds, making a suitable home for aquatic birds. The two remaining ponds will be used for a display of fish. Still further west is a circulah marine basin 40 feet in diameter. This will be fillde with sea water, and in it will be shown many of the interesting salt-water fish.

AGRICULTURE BUILDING.

The Agriculture Building stands on a hill just west of Skinker Road and about one-half mile south of the Administration Building. Its dimensions are 500 by 600 feet.

The long facade is broken up into bays accentuated by piers, the latter 100 feet from center to center. The ornamentation is concentrated in the main entrances, of which there are five; one in the center of each of the shorter fronts; one in the center of the front on Skinker Road and two in the western front. The openings in these entrances are fifty two feet wide and seventy-four feet high.

The building is probably the best lighted structure of the Fair. The roof is carried on nine bays of trusses, those in the center having a span of 106 feet.

The building has little ornamentation, and although the largest structure on the grounds, it cost less than some of the buildings in the main architectural picture of the Fair. The contract price was $529,940.

MANUFACTURES BUILDING.

The Manufactures Building is one of the leading structures in the big Exposition picture. It is located symmetrically with the Varied Industries Building, and both are in the first view of the picture of lagoons, cascades and hanging gardens which the visitor gets as he enters the grounds by the main entrance.

"It is a noble composition developed in the Cor-

CORNER MACHINERY PALACE

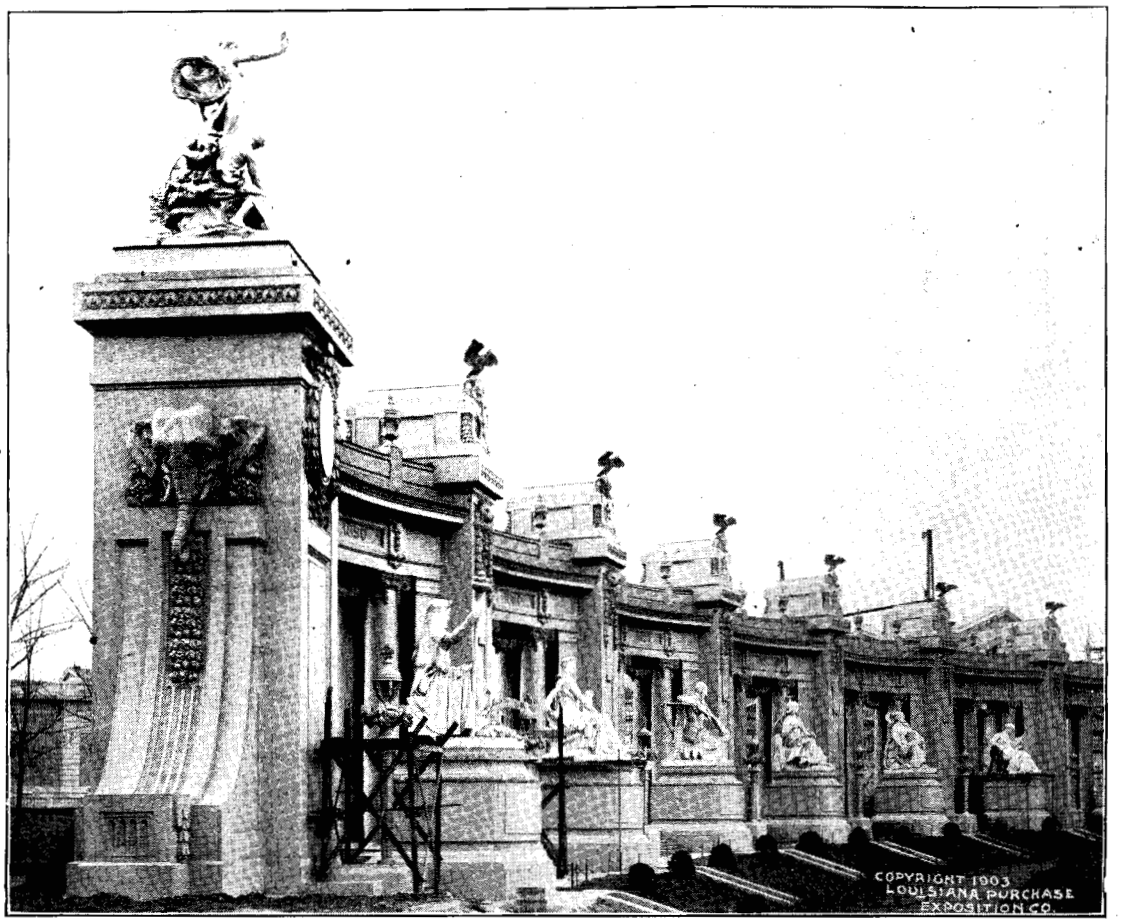
inthian order of architecture. It lies in the main picture, being one of the buildings on the entrance to the main boulevard or central spacing. The structure has a northern frontage of 1200 feet, with a depth of 525 feet on the main boulevard. The architects have designed noble and imposing entrances at the centers of the main facades. A triumphal arch motif is designed at the entrance at the center angle of the north front.

"The architects have arranged corner entrances into this building. Entrances at the corners of buildings are difficult to so design as to be in perfect harmony with the architecture of the building in general. Without skillful treatment such entrances would not be acceptable from an artistic standpoint. Graceful groups of sculpture will ornament and accentuate the four main entrances on the sides.

"The architects have developed a most skillful arrangement of the roof lines. They give light and ventilation and at the same time avoid the extensive and troublesome skylights frequently used on structures of this kind. The design of the facades of the building employs the open colonnade treatment, which is very acceptable in a climate like that of St. Louis. This affords both a passageway for visitors and offers the shadow relief that will enhance the beauty of the design.

"The interior of the building has been laid out with courts of simple and pleasing proportions, with sufficient decoration to break the monotony of the walls. Opportunity for mural decoration is given on the outside walls back of the column treatment."

The cost of the building is $850,000.

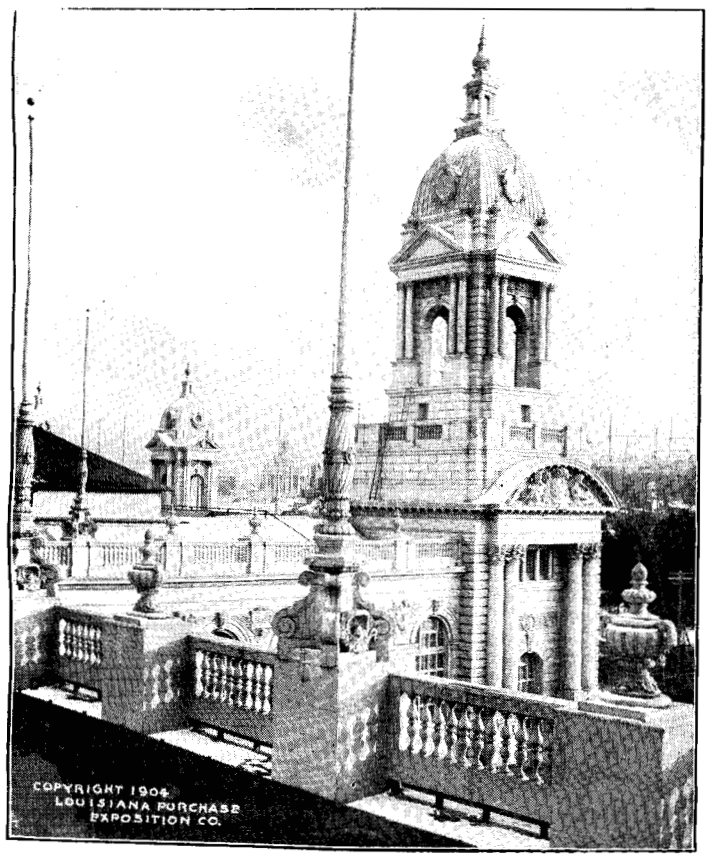


COLONNADE

MACHINERY BUILDING.

The Machinery Building stands on the Forest Park section of the Fair grounds and occupies a space 525 by 1000 feet. The contract price of the structure was about $500,000. It contains the Exposition's big power plant, and is served by a gigantic traveling crane, and by two tracks of railway running through the building from east to west.

The ground allotted for the building is of peculiar shape, viz., a large parallelogram with a huge rectangle cut out of the southwest corner. This shape was necessitated by the existence of a hill 65 feet high, containing masses of rock close to the [illegible] the building. The architects of the building furnish this statement in regard to the structure:

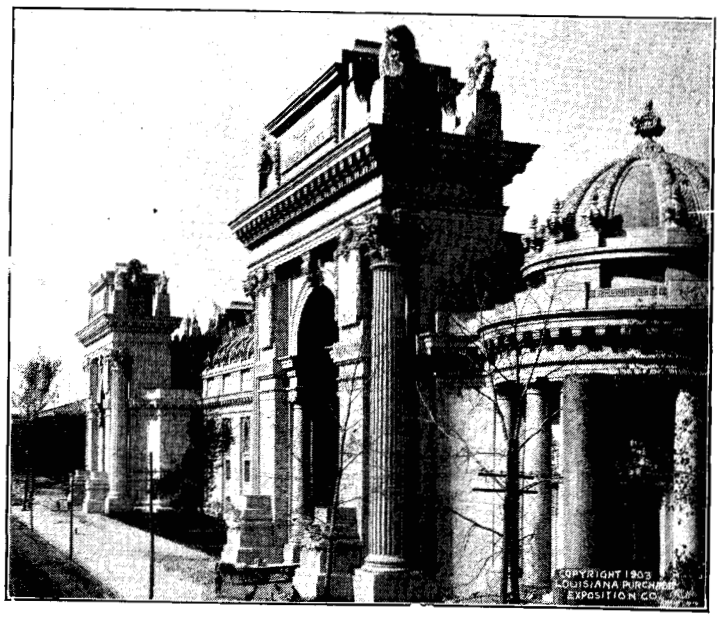


TOWER MACHINERY PALACE

"In a building of this immense magnitude, it behooves the designer to apply symmetrical treatment whenever feasible, and we have, therefore, designed the four facades subservient to this principle. In the south front the main entrance shows a triple arcade, with flanking pavilion in the center. The north front of 1000 feet has an arcade of seven arches as a center feature. The two axes of these central features are 160 feet apart, and in our ground plan we have formed on each of these axes a cross-aisle and nave of 80 feet in width. These aisles are connected by a lower room, with lantern light above.

"As a land mark, we have used two large towers, each 285 feet high, the highest in the main picture of the Exposition, on the north front of the building. The towers are safely built on massive piers, and form a convenient corner turning feature in the general complex of Exposition buildings, the Machinery Building being at one end of the main group.

"The adial measurement of unit in the building is 20 feet, and the widths of the various aisles are multiples of this unit, being 40, 60 and 80 feet wide, respectively. The main aisles are 85 feet in height, and the secondary aisles 30 feet, affording an abundance of clere-story light. The building is covered on the outer side with staff, with enriched spandrels and other ornamental features, and surmounted by occasional sculpture groups."



ENTRANCE LIBERAL ARTS PALACE

LOUISIANA PURCHASE TREATY

Treaty and Convention Between the United States and the French Republic.

Treaty Between the French Republic and the United States, Concerning the Cession of Louisiana, signed at Paris the 30th of April, 1803.

The President of the United States of America, and the first Consul of the French Republic, in the name of the French people, desiring to remove all source of misunderstanding relative to objects of discussion, mentioned in the second and fifth articles of the convention of the 8th Vendemiaire, an 9 (30th of September, 1800), relative to the rights claimed by the United States, in virtue of the treaty concluded at Madrid the 27th of October, 1795, between his Catholic Majesty and the said United States, and willing to strengthen the union and friendship which at the time of the said convention was happily re-established between the two nations, have respectively named their plenipotentiaries, to wit: the President of the United States of America, by and with the advice and consent of the Senate of the said States: Robert R. Livingston, Minister Plenipotentiary of the United States; and James Monroe, Minister Plenipotentiary and Envoy Extraordinary of the said States, near the Government of the French Republic; and the first consul, in the name of the French people; the French citizen, Barbe Marbois, Minister of the Public Treasury, who, after having respectively exchanged their full powers, have agreed to the following articles:

Art. 1st. Whereas, by the article the third of the treaty concluded at St. Ildephonso, the 9th Vendemiaire, an 9 (1st of October, 1800), between the first consul of the French Republic and his Catholic Majesty, it was agreed as follows: "His Catholic Majesty promises and engages on his part, to retrocede to the French Republic, six months after the full and entire execution of the conditions and stipulations herein relative to his Royal Highness the Duke of Parma, the colony or province of Louisiana, with the same extent that it now has in the hands of Spain, and that it had when France possessed it, and such as it should be after the treaties subsequently entered into between Spain and other States." And, whereas, in pursuance of the treaty and particularly of the third article, the French Republic has an incontestable title to the domain, and to the possessions of the said territory; the first consul of the French Republic, desiring to give to the said United States a strong proof of his friendship, doth hereby cede to the said United States, in the name of the French Republic, forever and in full sovereignty, the said territory, with all its rights and appurtenances, as fully and in the same manner as they had been acquired by the French Republic in virtue of the above-mentioned treaty concluded with his Catholic Majesty.

Art. 2d. In the cession made by the preceding article are included the adjacent islands belonging to Louisiana, all public lots and squares, vacant lands, and all public buildings, fortifications, barracks, and other edifices which are not private property. The archives, papers, and documents relative to the domain and sovereignty of Louisiana and its dependencies will be left in the possession of the commission of the United States, and copies will be afterwards given in due form to the magistrates and municipal officers of such of the said papers and documents as may be necessary to them.

Art. 3d. The inhabitants of the ceded territory shall be incorporated in the Union of the United States, and admitted as soon as possible, according to the principles of the Federal Constitution, to the enjoyments of the rights, advantages and immunities of citizens of the United States; and in the meantime they shall be maintained and protected in the free enjoyment of their liberty, property and the religion which they profess.

Art. 4th. There shall be sent by the Government of France, a commissary to Louisiana, to the end that he do every act necessary, as well as to receive from the officers of his Catholic Majesty the said country and its dependencies, in the name of the French Republic to the commissary or agent of the United States.

Art. 5th. Immediately after the ratification of the present treaty by the President of the United States, and in case that of the first consul shall have been previously obtained, the commissary of the French Republic shall remit all the military posts of New Orleans and other parts of the ceded territory, to the commissary or commissaries named by the President to take possession; the troops, whether of France or Spain, who may be there, shall cease to occupy any military post from the time of taking possession, and shall be embarked as soon as possible, in the course of three months after the ratification of this treaty.

Art. 6. The United States promise to execute such treaties and articles as may have been agreed upon between Spain and the tribes and nations of Indians until, by mutual consent of the United States and the said tribes or nations, other suitable articles shall have been agreed upon.

Art. 7th. As it is reciprocally advantageous to the commerce of France and the United States to encourage the communication of both nations for a limited time in the country ceded by the present treaty, until general arrangements relative to the commerce of both nations may be agreed on, it has been agreed between the contracting parties, that the French ships coming directly from France or any of her colonies, loaded only with the produce or manufactures of France or her said colonies, and the ships of Spain coming directly from Spain or any of her colonies, loaded only with the produce or manufactures of Spain or her colonies, shall be admitted during the space of twelve years in the port of New Orleans, and in all other legal ports of entry within the ceded territory, in the same manner as the ships of the United States coming directly from France or Spain or any of their colonies, without being subject to any other or greater duty on merchandise, or other or greater tonnage than those paid by the citizens of the United States.

During the space of time above-mentioned, no other nation shall have a right to the same privileges in the ports of the ceded territory; the twelve years shall commence three months after the exchange of ratifications, if it shall take place in France, or three months after it shall have been notified at Paris to the French government, if it shall take place in the United States; it is, however, well understood that the object of the above article is to favor the manufactures, commerce, freight, and navigation of France and Spain, so far as relates to the importations that the French and Spanish shall make into the said ports of the United States, without in any sort affecting the regulations that the United States may make concerning the exportation of the produce and merchandise of the United States, or any right they may have to make such regulations.

Art. 8th. In future, and forever after the expiration of the twelve years, the ships of France shall be treated upon the footing of the most favored nations in the ports above mentioned.

Art. 9th. The particular convention, signed this day by the respective ministers, having for its object to provide for the payment of debts due the citizens of the United States by the French Republic, prior to the 30th of September, 1800 (8th Vendemiaire, an 9) is approved, and to have its execution in the same manner as if it had been inserted in the present treaty; and it shall be ratified in the same form, and in the same time, so that the one shall not be ratified distinct from the other.

Another particular convention, signed at the same date as the present treaty, relative to the definite rule between the contracting parties is in the like manner approved, and will be ratified in the same form, and in the same time, and jointly.

Art. 10th. The present treaty shall be ratified in good and due form, and the ratifications shall be exchanged in the space of six months after the date of the signature by the Ministers Plenipotentiary, or sooner if possible.

In faith whereof, the respective Plenipotentiaries have signed these articles in the French and English languages, declaring, nevertheless, that the present treaty was originally agreed to in the French language; and have hereunto put their seals.

Done at Paris, the tenth of Floreal, in the eleventh year of the French Republic, and the 30th of April, 1803.

ROBERT R. LIVINGSTON.
JAMES MONROE.
BARBE MARBOIS.

(A second treaty signed the same day, April 30, 1803, by Livingston, Monroe and Marbois, contained these three articles:)

Art. 1st. The government of the United States engages to pay to the French Government, in the manner specified in the following articles, the sum of sixty millions of francs, independent of the sum which shall be fixed by another convention for the payment of debts due by France to citizens of the United States.

Art. 2d. For the payment of the sum of sixty millions of francs, mentioned in the preceding article, the United States shall create a stock of eleven millions two hundred and fifty thousand dollars, bearing an interest of 6 per cent. per annum, payable half yearly in London, Amsterdam, or Paris, amounting by the half year to three hundred and thirty-seven thousand five hundred dollars, according to the proportion which shall be determined by the French Government, to be paid at either place, the principal of the said stock to be reimbursed at the treasury of the United States, in annual payments of not less than three millions of dollars each; of which the first payment shall commence fifteen years after the date of the exchange of ratifications; this stock shall be transferred to the government of France, or to such person or persons as shall be authorized to receive it, in three months at most after the exchange of the ratification of this treaty, and after Louisiana shall be taken possession of in the name of the Government of the United States.

It is further agreed that if the French Government should be desirous of disposing of the said stock to receive the capital in Europe, at shorter terms, that its measures for that purpose shall be taken so as to favor, in the greatest degree possible, the credit of the United States, and to raise to the highest price the said stock.

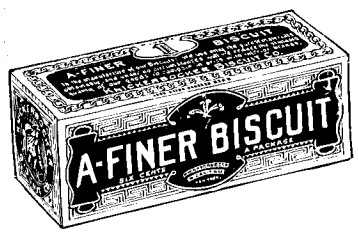
Art. 3d. It is agreed that the dollar of the United States specified in the present convention shall be fixed at five francs 3333-10,000 or five livres eight sous tournois. The present convention shall be ratified in good and due form, and the ratifications shall be exchanged in the space of six months to date from this day, or sooner if possible.

(Still another treaty was made by the same parties that day, No. 3, covering the so-called spoliation claims of citizens against France, the aggregate of which, with interest, was not to exceed 20,000,000 francs.)

THE LOUISIANA PURCHASE

The Purchase by the United States from France in 1803 of the "Province of Louisiana."

In the spring of 1802 news reached the United States that Spain, by the secret Treaty of San Ildefonso, concluded in October, 1800, had retroceded Louisiana to France, and the uneasiness caused thereby was soon increased by the announcement that the Spanish Intendant had withdrawn the right of deposit secured to the inhabitants of the United States by the treaty of 1795, and that Louisiana was to be delivered to France at an early date. President Jefferson was alarmed at the prospect of danger arising from the proposed transfer to France, and declared that the day she took possession the ancient friendship between the United States and France would be at an end, and the United States must henceforth ally itself with the British nation. The President expressed this belief to Congress in his annual message, and at the same time wrote to the American Minister at Paris, Robert R. Livingston, that if France considered Louisiana indispensable to her interests she might still cede to the United States the island of New Orleans and the Floridas, and thus remove, to some extent, the causes of the irritation. Believing that this end could be best accomplished by sending a man direct from the United States, he selected, in January, 1803, James Monroe to act as Minister Plenipotentiary with Livingston. The Senate confirmed the nomination, and placed the sum of $2,000,000 at their disposal to accomplish the object of the mission. The war between France and England had just been renewed, and Napoleon, realizing the invincibility of England on the sea, doubted the ability of France to hold Louisiana against such a power. To the astonishment of the commissioners, therefore, Napoleon, through Talleyrand, proposed to sell the entire Province of Louisiana, and asked for an offer. The Marquis de Marbois, Minister of the Treasury, was then selected by Napoleon to conduct the negotiations. In the meantime Monroe arrived (April 12), and the negotiations began in earnest. Marbois insisted on 100,000,000 francs and the assumption of Louisiana's debts by the United States, but finally agreed to take 80,000,000 francs, including 20,000,000 for the debts which the United States was to assume, and on this basis the sale was effected, April 30, 1803. President Jefferson did not think that the Constitution warranted the annexation of Louisiana, and considered that an amendment would be necessary—an "act of indemnity," as he expressed it; but there was such general acquiescence by the people that the matter was dropped and Jefferson advised Congress that the less said about the constitutional difficulty the better. The treaty was ratified by the Senate on October 20 by a vote of 24 to 7, and was laid before



both Houses, that they might provide for its execution. The treaty provided that the inhabitants of Louisiana should be incorporated into the Union and admitted to the full enjoyment of all the rights and immunities of citizens of the United States as soon as possible; that in the meantime they should be protected in the enjoyment of liberty, property and worship; and that the ships of both France and Spain should for a period of twelve years enjoy special privileges of entry at New Orleans. Accompanying the treaty were two conventions providing for the manner of payment of the purchase price, and for the settlement of the debt. McMaster calculates that up to 1880, the total cost of Louisiana, principal, interest, and debts assumed, was $27,267,621. The area purchased exceeded 1,000,000 square miles. The population did not exceed 90,000, including about 40,000 slaves. The rest of the population consisted of French, Spanish creoles, Americans, English and Germans.—From the "New International Encyclopedia," New York, 1903.

THE PURCHASE MONEY

How the United States Government Paid the $15,000,000 for the Louisiana Territory.

The history of the payments by the United States Government on account of the Louisiana Purchase is recorded in a document of the Treasury Department entitled "National Loans of the United States."

There was no warrant drawn on the Treasury for the purchase money. The treaty provided that France should receive $11,250,000, in United States bonds, payable in four equal instalments in 1818, 1819, 1820 and 1821, with 6 per cent. interest, payable semi-annually in London, Amsterdam and Paris. The interest paid in London was to be at the rate of four shillings and six pence sterling, for each dollar, and 2½ guilders for each dollar paid in Amsterdam. The bonds were to bear interest from the time at which possession of Louisiana might be obtained by the United States, and were to be delivered within three months thereafter by the President of the United States to the Government of France, or to such persons as should be authorized to receive them.

The act approved November 10, 1803, providing for the issue of this stock in favor of the French Government, or its assignees, was in conformity with the treaty, and provided further that the Secretary of the Treasury might consent to shorten the time for beginning the redemption of the bonds. The act appropriated an annual sum of $700,000 (in addition to the annual sinking fund of $7,300,000), to meet these obligations, the appropriation to continue, payable out of duties on merchandise and tonnage, until the entire debt of the United States, including these bonds, should be redeemed.

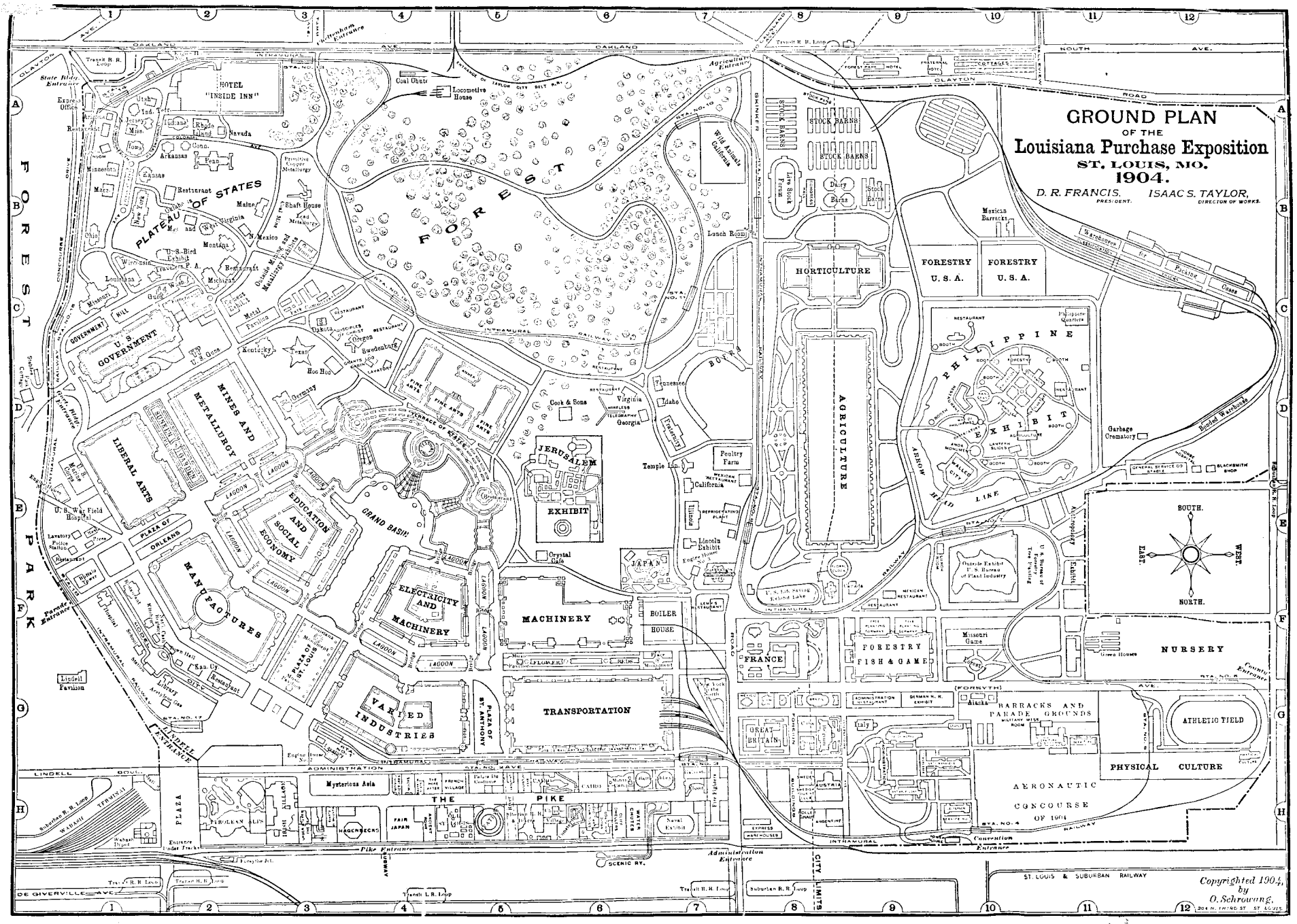
The payment of principal and interest was charged upon the Commissioners of the Sinking Fund. The money was provided from the general funds in the Treasury. The bonds, delivered in the first quarter of 1804, were sold at par by the French Government and were redeemed in after years as follows: In 1812, $218,200; in 1813, $113,000; in 1817, $631,800; in 1818, $4,909,575; in 1819, $1,471,058.72; in 1820, $1,771,173.78; in 1821, $2,132,102.50; in 1822, $5290; in 1823, $2500. Total, $11,250,000.

With the aid of a broker who was allowed a commission of one-fourth of 1 per cent., the Sinking Fund Commissioners managed, between 1812 and 1818, to redeem enough small lots of the bonds to net a total discount saving of $8257. The rest were redeemed at par.

The treaty provided that $3,750,000 out of the total of $15,000,000 to be paid by the United States for Louisiana should be retained by the United States and be applied to the satisfaction of the spoliation claims of American citizens against France. This amount was subsequently all paid out of the Treasury in satisfaction of such claims, except a remnant of $11,731.02, carried to the surplus fund June 30, 1868.

JOTTINGS

Palace of Machinery cost $490,597.
Palace of Electricity cost $399,940.
Palace of Horticulture cost $228,000.
Palace of Liberal Arts cost $475,000.
Anthropology Building cost $115,000.
Palace of Transportation cost $696,000.
Palace of Manufactures cost $719,399.
Palace of Varied Industries cost $504,000.
Outdoor mining exhibit, covering twelve acres.
Jubilee presents of the late Queen Victoria.
Typical '49 mining camp in "Mining Gulch."
United States Fisheries Building, 133 feet square.
Towers on Palace of Machinery are 265 feet tall.
Approximate cost of the Exposition $50,000,000.
History of the Louisiana Purchase told in flowers.
Largest silver nugget ever mined; weighs five tons.
Sunken gardens 750 feet long and 100 feet wide.
Forty thousand horse-power for Exposition uses.
Rose gardens, six acres in area, 50,000 rose trees.
Statue of Vulcan, in coal, iron and coke, 50 feet high.
An 8000 horse-power turbine engine in power plant.
Fifteen exhibits departments; 144 groups; 808 classes.
Fair opened April 30, 1904; closes September 1, 1904.
Largest gas engine ever made, 3000 horse-power.
Revival of the Olympian games of ancient Greece.
Size of grounds, 1,240 acres, nearly two square miles.
Conservatory 200 feet square in Palace of Horticulture.
Aerial navigation, $200,000 appropriated for tournament.
The sum of $150,000 appropriated for athletic events.
Philippine exhibit, costing $1,000,000, covers 40 acres.
Half a million dollars expended in decorative sculpture.
Over fifty foreign governments to make elaborate displays.
Live stock exhibit covers 37 acres; $250,000 for premiums.
Floral clock, dial 100 feet in diameter, hands 50 feet long.
Art pottery manufactory in operation, showing processes.
Rainbow gardens line the Cascades; flowers of every hue.
Palace of Mines and Metallurgy, 525 by 750 feet, cost $498,000.
Louisiana State Building to be the Cabildo at New Orleans.
Robert Burns' cottage at Ayrshire to be reproduced on grounds.
Natural garden where all North American wild flowers grow.



Main Exh

Administration	G 9
Agriculture	D 7
Educat'n & Social Economy	E 3
Electricity & Machinery	F 4
Festival Hall & Terrace of States	D 4
Fine Arts	D 4
Forestry & Game	F 9
Horticulture	C 8
Liberal Arts	E 1
Machinery	F 5
Manufactures	F 2
Mine & Metallurgy	D 2
Transportation	G 6
Varied Industries	G 4

State Buildings.

Arizona	A 1
Arkansas	A 2
California	E 7
Connecticut	A 2
Georgia	D 6
Illinois	E 7
Indiana	A 2
Indian Territory	A 1
Iowa	A 1
Kansas	B 1
Kentucky	C 3
Louisiana	C 1
Maine	B 3
Maryland	B 2
Massachusetts	B 1
Michigan	C 2
Minnesota	B 1
Mississippi	A 1
Missouri	C 1
Montana	B 2
Nevada	A 2
New Jersey	A 1
New Mexico	B 2
New York	B 1
Ohio	B 1
Oklahoma	B 2
Oregon	C 4
Pennsylvania	B 2
Rhode Island	A 2
South Dakota	C 3
Tennessee	D 7
Texas	C 3
Utah	A
Virginia	D 6
Washington	C 2
West Virginia	B 2
Wisconsin	C 1

Government Buildings.

Alaska	G 10
Argentine	H 8
Austria	H 8
Belgium	G 8
Brazil	G 8
Canada	F 9
China	G 8
Cuba	G 8
France	F 8
Germany	D 3
Great Britain	G 8
Italy	G 9
Japan	E 6
Mexico	G 8
Nicaragua	G 8
Philippine	D 10
Siam	G 8
Sweden	H 8
United States	C 1

Special and Miscellaneous Buildings.

Boiler House	F 7
Bonded Warehouse	D 12
Buffalo Tower	F 1
Coal Chute	A 4
Congress Hall	B 8
Cook & Sons	D 6
Disciples of Christ	C 3
Engine Houses	F 7, A 2, E 1, G 3
Dairy Barns	B 8
Express Office	A 1
Express Warehouses	H 8
Fraternity Building	D 7
German Railroad Exhibit	G 9
Garbage Crematory	D 12
Green Houses	F 11
Hoo Hoo	D 3
Inside Inn	A 2
Lavatories	E 1, D 4, G 3, H 5
Locomotive House	A 4
Military Mess Room	G 11
Model City	F 1
Mexican Barracks	B 10
Music Pavilions	D 2, G 3 & G 5
Park Commissary Bldgs	C 3
Police Station	E 1
Power House	H 10
Press Building	E 1
Refrigerating Plant	E 7
Stock Barns & Pens	A 8 & B 6
Swedenburg	C 4
Swedish Tourist Club	H 8
Temple Inn	E 7
Travelers' Protective Ass'n	C 1
U. S. Fisheries	C 2
U. S. Life Saving Exhibit	F 3
U. S. Marine Corps	E 1
U. S. War & Field Hosp'l	E 1
Warehouses	B 11, 12, C 1

Outside Fe its

Aeronautic C	
Anthropolo	
Athletic F	
Bird F	
Floral Clock	E 8
Live Stock Forum	B 8
Missouri Game	F 10
Nursery	F 12
Outside Exhibit U. S. Bureau Plant Industry	E 10
Outside Mining & Metallurgy	B 3
Sunken Garden	D 2
U. S. Bureau Forestry Tree Planting	E 10
U. S. Forestry	C 9

Restaurants and Lunch Rooms.

A1, B2, B7, C2, C3, C4, D1, D6, E1, E5, E7, E9, F7, F9, G9.

Plazas, Etc.

Plaza of Orleans	E 2
Plaza of St. Anthony	G 5
Plaza of St. Louis	F 3
Plaza of States	B 1
Parade Grounds	G 10
Government Hill	C 1

The Pike and Concessions.

Ancient Rome	H 4
Baby Incubator	H 5
Battle Abbey	H 7
Boers	C 7
Cairo	H 6
Ceylon Tea Garden	F 8
Chinese Village	H 5
Cliff Dwellers	H 6
Constantinople	H 6
Creation	H 5
Crystal Cafe	E 5
Esquimaux & Laplanders	H 6
Fair Japan	H 4
Fire Fighters	H 7
French Village	H 5
Galveston Flood	H 7
Glass Workers	H 4
Grant's Log Cabin	D 4
Hagenbecks	H 4
Hereafter	H 4
Hunting in the Ozarks	H 3
Irish Village	H 3
Jerusalem	
Lincoln Ex	
Magic W	
Moors	H 4
Moving Pictures	H 4
Mysterious Asia	H 3
Naval Exhibit	H 7
New York to North Pole	G 7
Observation Wheel	F 7
Old St. Louis	H 5
Palais du Costume	H 5
Poultry Farm	D 7
Rober Chairs	H 8
Scenic Railway	H 7
Seville	H 3
Siberian R. R. & Divers	H 5
Tyrolean Alps	H 2
Under & Over the Sea	H 3
	H 6
	D 6

"OUR INTEREST IS IN CONCORD NOT CONFLICT"

E PLURIBUS UNUM

ORIGINAL STARS AND STRIPES

UNITED STATES

FLAGS OF ALL NATIONS

CUBA

VENEZUELA

MEXICO

THE GREATER REPUBLIC OF CENTRAL AMERICA

GUATEMALA

COSTA RICA

MOSQUITO INDIANS

COLOMBIAN REPUBLIC

EQUADOR

CHILI

BRAZIL

PERU

BOLIVIA

URUGUAY

PARAGUAY

ARGENTINE REPUBLIC

DOMINICAN REPUBLIC

GREAT BRITAIN

GERMANY

NETHERLANDS

BELGIUM

FRANCE

SPAIN

PORTUGAL

ITALY

SWITZERLAND

AUSTRIA HUNGARY

MONTENEGRO

MONACO

SERVIA

BULGARIA

NORWAY

SWEDEN

RUSSIA

DENMARK

ROUMANIA

TURKEY

GREECE

MOROCCO

TUNIS

LIBERIA

CONGO

SAMOA

CHINA

JAPAN

COREA

SIAM

PERSIA

TONGA

RARATONGA